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Lectures in Linguistics

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Deccan College Handbook Series

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LECTURES IN LINGUISTICS

BY

O. L. CHAVARRIA-AGUILAR

DECCAN COLLEGE
Post-Graduate and Research Institute
POONA

LECTURES IN LINGUISTICS

BY

OSCAR LUIS CHAVARRIA-AGUILAR

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PREFACE

These lectures were delivered in Poona on the 8th, 10th, and 12th of March 1954, under the joint auspices of the University of Poona and the Deccan College Post-graduate and Research Institute. At the suggestion of Dr. S. M. KATRE, I have added three sections to the original lectures: the first two are intended to illustrate some of the problems and techniques of Linguistic methodology. The third, titled TRANSFER GRAMMAR, represents an application of the techniques and methods of Descriptive Linguistics to the field of language teaching—essentially an attempt to evolve a more efficient method of teaching languages, employing the methods and results of modern Linguistic Science. A short, general bibliography is appended.

O. L. CHAVARRIA-AGUILAR

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I

ON THE NATURE OF LANGUAGE

The title of the present lecture may have raised some doubts as to my intention in this modest series, and may have led you to wonder whether I am going to discourse on old familiar topics. For I have no doubt that most, if not all, of us consider ourselves uniquely qualified to deal at length with the subject of language and to elaborate a definition thereof which will satisfy ourselves, if no one else. I would even go a bit farther and hazard the guess that most of us actually have at one time or another, held forth at some length, and with authority and finality on matters linguistic. It may have been simply on whether such-and-such a form is 'better' or 'more correct' or 'more felicitous' than such another, or it may have concerned the relative stylistic merits of Kālidāsa and William Shakespeare. But there is little doubt that most of us have been called upon, or at least have felt called upon, to deal with or to define language in some way, and we have all, I am quite sure, responded to that call with alacrity and assurance.

Language being perhaps the ultimate in the "all things to all men" category, there is no end to the variety of definitions of language, each expressing largely the individual propounder's own highly personal linguistic philosophy and little more. The only common feature of most such definitions is the assurance with which they

are made. This is not surprising, this assurance, in view of the fact that *over no other single aspect of human culture does Man ever approximate the mastery he attains*—and at a very early age—*over language.*

Consider that we are surrounded by language from birth. In very early infancy this is probably nothing more than an almost continuous, often disturbing, stream of not particularly pleasing noise. Still at a rather early age, these noises seem to get sorted out, as it were, in the child's mind and he slowly begins to respond to them; broadly and somewhat haphazardly at first, but with increasing discrimination. Not long afterward he makes his first attempts to employ, in meaningful situations, these sounds to which he has learned to respond. The child is then fully embarked upon the process of language learning, the most staggering, and the most significant single intellectual endeavour any of us is ever asked to undertake. And it must be said to our credit that all of us somehow come through this most onerous of all human tasks, in one piece physically and mentally, and pass on to other more or less fruitful pursuits. Some of us, however, become so preoccupied with language that we never pass on to better things. Such are of the curious breed of the linguist or, as he used to be more generally known, the grammarian.

But consider that while the average normal person acquires a perfect mastery over his language tools, that is, over the language of his community as an item of human culture to be actively employed, he learns next to nothing about the real nature of this tool. Not that

this state of affairs is unique. How many of us, for example, learn to drive an automobile well, learn how to obtain its maximum efficiency over rough terrain, how to control it in the rain and under other adverse conditions, yet never grasp the vital difference between a spark plug and the radiator cap? We have complete mastery over the automobile until the carburettor refuses to carburet (or whatever a carburettor does) or the generator to generate. Then we realize that we do not know the first thing about an automobile; our mastery over the automobile is limited to its use as a tool, and ceases the moment the automobile breaks down, for our mastery does not extend to the automobile as a complex mechanical unit. When our mastery ends, when the automobile stalls, we take it to a mechanic who does understand it as a machine, and he does the needful. Now this analogy with language is not quite accurate, for the moment we are faced with a language problem, with a question about the workings of language, we seldom, if ever take it to a language mechanic. Either we work out our own solution, or we seek it from someone who is as ill-equipped as we are to deal with the problem. Our perfect mastery over language *as a tool* invariably traps us into the false notion that we are fully competent to deal with questions *about* language.

Language is thus, at one and the same time, man's most significant possession and the most sinned against. Every normal human being masters his own particular language, but very few ever pause to observe it closely. This may not be so bad, by the way, for a world full of linguists would probably be an extremely trying one.

What is worse, however, is that few of us ever take the pains to try to understand even the elementary, general facts about language, though most of us do learn that an automobile battery requires water regularly and recharging periodically. Our ignorance, however, never seems to prevent us from discussing language as if we knew all there is to know about it. Probably because of the complete mastery that we attain over language at an early age, we tend to take the nature of language so much for granted. We may be able to drive an automobile well, and to talk quite lucidly and precisely about it—the successive mechanical actions required to put the machine in motion, how to keep it running, and so—but how many of us know the first thing about the internal combustion engine, except that it requires fuel of some sort? We can talk about the internal combustion engine with impunity only so long as our listeners are as ignorant of the facts as we are. The moment a qualified mechanic puts in an appearance, we shall be called to account. For language, unfortunately, there are not enough real mechanics. All of us consider ourselves more or less language experts—usually more—for no other reason than that we can all speak one language, at least, intelligibly, if not necessarily intelligently. And since we are all equally ignorant as to the nature of language, the most nonsensical things get said about it with complete impunity, for there is hardly anyone to call us to account.

Definitions of language are not, as I have said, wanting in the least. If anything, they are too numerous. But to define is not to explain, though for some perverse

reason it is only where language is concerned, it would seem, that we are inclined to forget or ignore this vital fact. We thus almost always content ourselves with definitions of language, and sometimes even mistake these for explanations. I am not, by any means, against definitions; in fact, I am quite fond of them and shall shortly give one. Definitions are important and necessary, to say nothing about their being convenient, to any investigation that pretends to science. The danger lies in accepting them as the final word. "An automobile is a self-propelled, four-wheeled conveyance with headlamps" tells us nothing about the internal combustion engine without which the automobile is no more a conveyance than a bullock cart without bullocks. Similarly "language is an essentially perfect means of expression and communication among every known people" does not go very far in explaining language to us, even though that happens to be one of the better general definitions of language. *

Though we now have a good general definition of language, we must not, if we wish to understand more fully the nature of language, remain content with just that. We may proceed to pose more questions on the different aspects and functions of language. It will be my purpose here to discuss some of the questions likely

* Edward SAPIR; "Language" *Encyclopaedia of the Social Sciences* (New York, Macmillan, 1933) 9: 155-169; now also in *Selected Writings of Edward Sapir*, David G. MANDELBAUM ed. (Berkeley and Los Angeles, University of California Press, 1949) pp. 7-32.

to arise in this connection and which, in fact, most often do arise. I am not going to attempt a definitive explanation, nor elaborate a new definition of language. I merely wish rather to consider some of the functions and properties of language that may lead us to a more sober appreciation and to a better understanding of this exclusively human phenomenon.

First let us go back for a moment to Sapir's definition of language and ask ourselves what this "essentially perfect means" consists of. The answer is not too difficult, though it involves considerations that have led many would-be language mechanics astray. The means by which humans communicate is a conventional, self-contained system of arbitrary oral symbols of reference. We might turn this around and say that language, i.e., Sapir's "essentially perfect means,"[1] consists of signs which are vocal and auditory, arranged in prescribed formal patterns requiring no assistance from outside themselves, and having no logical connection or relationship with the physical realities or non-physical phenomena for which they stand, but are established and accepted by common consent of the members of the group employing them for communication and expression.

1 Language is not writing. Writing is a more or less imperfect and arbitrary attempt to portray graphically the primarily oral symbols that constitute language. It is closer to perfect in the case of Finnish and Castillian Spanish, less so in the case of modern English. But writing is secondary to language and irrelevant to its nature. While there are numerous languages for which

no recognized traditional system of graphic representation exists, there has never been attested, at least not to my knowledge, a system of writing which was not based on an existing spoken language.* Furthermore, all the weight of historical evidence points to the spoken language as anterior to writing as to other visual systems of symbolic representation. The fact that we cannot, for instance, decipher the Indus Valley script means only that we have a large gap in our knowledge of that particular civilization. We know that they built cities and houses according to given plans, that they had an adequate sewage disposal system and that they used certain types of domestic and agricultural implements. But we do not know what language the people spoke. We assume, of course, that they had a language for it is contrary to all our experience to assume a social organization, however simple, without an adequate means of inter-communication for its component parts—without language. We merely lack the touchstone that will enable us to link the system of graphic symbols that we have with the system of oral symbols which, we are certain, they were intended to represent. We may turn this around to get the equally significant statement that what we take to be the system of writing of the Indus Civilization remains unintelligible, so many scratches

* The case of Esperanto and of other artificial auxiliary languages is not as contradictory as might seem. While it is true that such languages are first given a graphic form, this is constructed along recognised phonetic and phonemic principles and the languages are meant to be spoken—and they are, in fact, quite widely spoken, at least Esperanto.

and ciphers, because we have no system of oral symbols to which to relate it. And although it is theoretically possible to construct visual systems of communicative symbols without reference to a parallel system of spoken symbols, the fact is that writing has always come about as an attempt to represent graphically a spoken language for the purpose (among many others) of preservation of documents and cultural items, distant communication, and so on.

I have said above that our signs are vocal and auditory, and this may strike you as either indecision or over-refinement. It is neither. I merely wish to make it clear that language can be studied from the point of view of the production of sounds or alternatively from the standpoint of the disturbance of air currents. That is, we may study the sounds of language in terms of their articulatory features as well as in terms of their acoustic features, of their shapes in the form of sound waves that impinge upon the ear drum. While phonetics, the study of sounds, has traditionally dealt with human speech from the articulatory points of view, in recent years, thanks in large measure to the refinement of certain electronic devices, it has become possible to study the acoustic shapes of sounds as combinations of sound waves. This particular field of research is known as acoustic phonetics.

Language as a system, as a patterning of limited sets of features of form, is self-contained. In order to carry out its expressive and communicative functions language does not require assistance from anything outside itself.

No language has ever been found to have gaps or imperfections in its formal system, making it necessary for it to employ extra-linguistic materials in order to perform its task fully. Most peoples do supplement the spoken language with gestures of one sort or another, but gesture never replaces language. Gesture is wholly supplementary, and where it is used as a substitute for language it is on an extremely limited and rather rudimentary level, such as the sidewise tilting and wagging of the head in India to signify an affirmative, or the hunching of the shoulders to convey ignorance. Even here, the conventional meaning of given gestures as substitutes for the spoken word, has doubtless grown out of their use originally accompanying speech. One must think of the original situation in which the first Indian waggled his head to signify assent or agreement in one of two ways. Either the gesture was accompanied by the spoken word—perhaps *evam*—or else he was immediately questioned, quite likely by an irate wife, as to the meaning of this head waggle. He then would have found it necessary to resort to overt speech to explain what he meant by this first waggling of the head. It is not impossible, moreover, that our man at first meant to convey a negation by this gesture—as it does in the West—but the frown on his wife's brow and the tone of her voice, themselves supplementary features, caused the man to think better of the matter and to assure his wife of his complete agreement. As a matter of fact this particular gesture at first causes Westerners no end of discomfort. It is very trying to speak with an Indian and

to have the feeling that he is disagreeing with your every word.

But to become sober again, such topics as the origin of gesture and indeed the origin of language itself are rather fruitless. Language exists, from the remotest antiquity as the most significant feature of human culture; the supplementary language of gesture also exists, and that is about all that we can safely say on the subject. Countless theories, too numerous to go into, on the origin of language do exist and have some degree of currency, but they are theories and nothing more. The origin of language is buried far back in man's past, and we shall in all liklihood never learn the exact circumstances that give rise to it.

Language assigns arbitrary oral symbols to physical realities and, just as arbitrarily, to actions, relations and other non-material phenomena in nature and in human culture. There is no logical or natural relationship between the word 'stone' and the physical reality which we denote by it. Nor can we on philosophical grounds, or on any other grounds, justify our denoting the action of placing the feet rapidly one before the other and at the same time pumping our arms more or less vigorously, by the word 'run.' The fact is that words are merely arbitrary symbols, by convention assigned to given physical realities or non-material phenomena, and by convention employed within a more or less rigidly definable community to denote these realities and phenomena.

Now let us pass on to consider some of the more important functions of language. Language is often said

to be the vehicle of human culture, and indeed it would be difficult to imagine a culture, however crude, without language. It is language alone of all human attainments that can effectively link two or more completely distinct nervous systems—and this not only at a given moment in time, but through time as well, from generation to generation. The fact of this latter linking is responsible for the propagation of institutions and of culture generally and, in a sense, enables the earliest Aryans to communicate with their present day descendants. And let me make quite clear that I do not here refer to the fact that the Vedas, for instance, were committed to writing, for they had for countless generations been passed on without the aid of writing, by word of mouth from father to son. And in almost any culture today we can hear from the lips of the illiterate, or of the man who has no written language, bits of history, myth and folk tale that go far back into the cultural history of the speaker. In a languageless group, assuming for the moment that one is possible, the preservation and perpetuation of culture is impossible, except as this is represented by a few physical artifacts and procedures which can be handed on silently from father to son. The progress and elaboration of culture, without language, would be, if not impossible, greatly slowed down. The same mistakes would be committed over and over again; each generation would have to discover for itself essentially the same procedures for existence that had been evolved by the preceeding generations. Without language each generation could profit but little from the errors and achievements of their predecessors.

An individual alone and one in a languageless group are pretty much in the same situation: they must rely solely on themselves for the satisfaction and fulfilment of their needs. If I am alone and hungry I must look to myself to procure the wherewithal to allay my hunger; and if I am in any way physically hampered, to the point where I cannot get about to forage for food I must starve. In a mute society, I am little better off. Assuming that I am again hungry and incapaciated, I might in the presence of my fellow mutes make some sort of gestures to convey the action of taking food, though it is highly doubtful whether any such gesture would be conventionally employed and understood in a languageless group. If, however, I am an excellent pantomime artist and am understood, so much the better for me. If I am not understood, which is highly likely, I am again doomed to starvation.

The lone individual and his fellow in a group without language, must themselves react to their own stimuli. That is, only the individual can know when he is hungry, and so only he can do something about procuring food to satisfy that hunger. When we have language the situation is immediately altered. Now it is possible for one person to feel hunger and by employing language to have another person perform the actions necessary to procure food. Where previously the recipient of a stimulus and the reactor thereto were of necessity one and the same, when we have language such is no longer necessarily the case. One may now feel hunger and by using certain oral symbols convey that fact to another who may then go about performing the

actions necessary to satisfy that hunger. Incidentally, the end result of a given speech event may be more or less removed in point of time from the event itself. A man on his death-bed may, in the presence of his son, vow vengeance on an enemy. The son may then go out immediately and before his father's ashes have been consigned to Ganga, satisfy his father's desire for vengeance. On the other hand he may, like Hamlet, vacillate interminably, so that the deed may go undone for years.

Because of language any human being has potentially at his disposal the resources of his entire community. If a single man is not strong enough to lift and carry a log which he has found and which he wishes to take home for fuel, he may, by the use of certain conventional vocal signs in prescribed formal patterns, i.e. language, enlist the aid of one, two or three men to help him carry it home, or if it is large enough, the services of the entire community may be sought. At this point we are confronted with a host of consequent considerations and actions of the greatest importance. Once the log has been transported to a given point, those who helped carry it may want some recompense for their time and efforts. They may sit down and talk the matter over with the finder of the log. This latter may decide to give each of his helpers a share in the log, in which case someone is sent to procure the necessary cutting tools and upon his return the men set about the task of dividing it. Or the finder of the log may decide to offer some other payment. He then either asks his friends what they would like him to do for them—he may be particularly adept at finding logs—or himself suggests what

he might do. In any case they all sit down and discuss the matter fully. Obviously these simple joint undertakings, as well as the increasingly involved functions and inter-actions of more and more complex social groups are impossible without language. In fact, I think we may safely say that social groups themselves, without language are impossible.

We find it very difficult to conceive of human society and human culture, even the loosest form of association, at the lowest level of material achievement, as existing without the keystone of language. Conversely, it is not unreasonable for us to assume that without social organization we would not have language, even if by 'social organization' we may infer the coming together for mutual benefit of a mere two individuals. We feel that a lone individual would have little use for language for there would be no one with whom to communicate, aside from which he would probably have little to say. Here, however, we are treading on very uncertain ground. We have been doubtless led to make this assumption by our too ready acceptance of a key feature of practically every definition of language: the expressive and communicative role of language. But language is much more than simply a means for expressing and communicating thought. It is, further, a perfect system of symbolic reference and a catalogue, as it were, of the cumulative experience of its users since the language first evolved. I am not about to deny that language as a means of communication and as a system of reference are not intimately related phenomena. We may grant that the reference system was largely built up through

the need for expression and communication of thought, but then we must also acknowledge that thought itself is greatly enhanced by this perfect system of symbolic reference. I should go father still and say that language, as a perfect symbolic referential system is essential and even indispensable to sustained, coherent and productive thought.

Let me give an example. Suppose we find ourselves in the position of having to do something about elephants, as the government of Mysore recently found itself. Suppose, in fact, that we are in the Mysore State Ministry of Elephant Disposal. We have been notified that there are 64 elephants to be sold. Now we do not have to see the elephants, nor do we have to visualize in our minds an elephant, two elephants or 64 elephants; in fact, we may never have seen an elephant. The *word* elephant registers in our minds and, in accordance with what we have to do with elephants, sets us off on a process of what is essentially non-overt verbalization—that is, we organize our thoughts about elephants within the limits of the same formal patterns we use for speech.

Now we have thought of elephants, and may even have visualized elephants if we found it necessary, or gone to see the elephants personally (though neither of these is essential to our task), but we must now consider, among other things, the market value of elephants, and how are we going to do that? Obviously we cannot, for it involves a host of independent though more or less interrelated considerations. Of the many factors that enter into and affect what we conveniently verbalize in

the 'market value of elephants' we can visualize and personally investigate but one or two. This verbalized concept involves the mortality rate of elephants in the teak forests, the establishment of new zoological gardens and the demand for circus elephants throughout the entire world, the present status as well as the size of the privy purses of the former Maharajahs, Nawabs, and so on. Without the convenient symbolic abstractions of language, whether we overtly verbalize them or not, the business of disposing of our elephants would take us forever. By the time we disposed of ten, say, the rest would have died of old age and of whatever else the flesh of elephants is heir to. We could then, of course, salvage the ivory tusks, but then this would thrust upon us the task of having to go into the market value of ivory which, fortunately, is rather more imperishable than the elephant himself.

Now we begin to realize that our lone individual is worse off even than we had originally supposed him to be: not only can he not speak, he cannot even think properly! Here though, we may be doing our man an injustice, for if he has a keen mind and feels the need for it, he may evolve his own system of reference—perhaps even giving the individual referents phonetic values—to enable him better to organize his experiences, in other words, to enable him to think. To give a rather simple example of this phenomenon—the reliance of thought on language—how many of us often find that talking about a problem or writing it down greatly helps to clarify our thinking about it? And how often do we not confess to 'thinking out loud,' in other words, to

organizing our thoughts and aiding our mental processes by resorting to overt speech?

In one sense then, our individual has language when he constructs his own unique system of reference. But it is not language as we understand and employ the term, though it comes close to language, if it is not indeed language, when he gives to his referents oral symbols in addition to those, of whatever nature, already confected. The question as to whether or not our lone individual's system constitutes language depends upon whether the expression and communication for which the phonetic symbols of our referential system are the means, require, by definition, a recipient or reactor outside ourselves. Certainly in so far as language is an aid to thought, such is not the case. But this whole matter comes close to question begging and hair splitting, and to continue in this vein will involve us unnecessarily.

While it is indispensable to sustained, coherent thought, to our investigation and organization of experience, language at the same time circumscribes our thinking and hinders us in our attempts to deal with and to structure experience. And it does this not only by its finiteness as a symbolic referential system, but as well by its characteristic formal structure, i.e., by its grammar. What I wish to say is that in the business of organizing our experience, we are necessarily bound within the formal framework of our language, as well as by its cultural content. One or two examples will suffice.

To you and to me a camel is a camel and little else: a rather ungainly, ugly beast with four legs, a long neck, a nasty disposition and little to recommend it except that it is said to be capable of going without water for days at a stretch. Even this, unless we live in a desert, is a rather superfluous virtue and would not go very far in persuading us to keep one or more camels. In English we can differentiate between a dromedary with one hump and a Bactrian with two. But they are still mere camels, and we are usually careful to say so, for there are also dromedary dates and Bactrian Greeks. To an Arab, however, such a situation is a veritable travesty. In the experiential reference system of the Arab, in Arabic that is, there is no such thing as 'camel' as our reference system has it, and there is certainly nothing mere about the beast. To the Arab a camel is first of all male or female, which we, if pressed, will admit by adding the words 'he' or 'she' or 'male' or 'female.' But the Arab does not by any means let the situation rest here. In his system of symbolic reference, the Arabic language, a brown camel and a white camel are quite distinct entities. And the language distinguishes camels that have had little camels from camels that have not, camels with one brown eye and one blue eye from those with both eyes of a color, one year old camels from three and a half year old camels, pack camels from riding camels, albino camels from all other camels and so on. This is not facetiousness, Arabic does contain literally scores of words for what we think of as merely a camel. Now we may quite readily agree that this detail-

ed camel nomenclature is doubtless the results of the Arab's feeling for the camel—to the Arab life without a camel is hardly life at all. But this does not alter the fact that the language has turned back on the Arab, so that the Arab now finds it impossible to talk about and difficult to think about camels in terms of reference other than those imposed upon him by his language.

To us, whose experience with camels is severely limited, the detailed distinctions of Arabic seem hardly necessary. The Arab, on the other hand, forced to discourse on camels in English or Marathi would find our languages sadly deficient. And note that although we can talk about and distinguish the same types of camels as the Arab—and if we have any doubts we can always ask an Arab to point out the beast he denotes by a single phonetic symbol—we can do so only because our languages are capable of analyzing experience into elements which to us are dissociable. This is not to say that Arabic cannot; it can, just as well as any language. But the fact is that the Arab and his language do not dissociate the qualities implicit in the physical reality which we denote, for example, by the two words 'riding camel.' In short, while we see and verbalize two dissociable symbols or sets of symbols in 'riding camel,' i.e., a four-legged mammal of a specified genus and species, bred and used solely for the purpose of riding, the Arab, in his single symbol, does not. To him, the Arabic for 'riding camel' is not construed as of two or more dissociable elements, but as a single experiential reality.

Let us now consider a case of the forceful structuring of experience in accordance with the formal characteristics of language, by grammar. For the sake of brevity and clarity, I shall take rather simple examples from familiar languages which happen to be related. Consider for a moment the case of grammatical gender in English, Spanish and Marathi. English to all intents and purposes does not formally distinguish gender. There is the case of 'he,' 'she' and 'it,' but this is limited to the pronouns, and even here there is nothing in the shapes of the symbols themselves, in their formal structure, that definitely establishes their membership in any formal gender category. There is no single feature in the formal structural classes and processes of the English language that serves to classify experiential data into gender categories.

In Spanish we have two categories which we call masculine and feminine and all substantives, that is a peculiar class of symbolic referents, are classed accordingly. There are in Spanish moreover, formal structural features that distinguish the members of one of these two sub-classes from the other. It would be perhaps erroneous to say that all speakers of Spanish 'feel' that all substantives having a particular formal characteristic in common are feminine and others sharing another distinct formal feature masculine in terms of actual physiological sexual differences. The terms 'masculine' and 'feminine' are merely convenient extensions of the fact that in the words for 'boy' and 'girl,' for example, we can relate the formal grammatical difference to the physio-

logical sexual attributes of the human species. However, the grammar of Spanish does forcibly bisect experience for its speakers into two distinct categories, and the speakers of Spanish cannot explore and organize experience except with the rigid formal framework of this bi-polar system.

In contrast to both English and Spanish, Marathi has no less than three so-called gender categories. The structuring of experience for speakers of Marathi is thus a three-way affair. Again, no speaker of Marathi—none that I know, at any rate—will maintain that cats and children are sexless, simply because they are *neuter* in grammatical form. On the other hand he cannot talk about cats and children except within rigidly prescribed formal patterns. He cannot, for instance, say *he mule* in the same way that he can say *he lok* to include men and women; if he wishes to use the word *mule* he must say *hi mule*, regardless of whether the children to which he has reference are all girls or all boys or a mixed group. A new cultural experience may necessitate adding to the symbolic resources of the language, and this can be done by borrowing a word from another language (and the acceptance of an alien word along with the new cultural experience which it denotes is by no means rare), or by the extension of existing forms. Thus, for example, in Latin America, when we first began to accept the essentially American game of baseball, we called it simply *beisbol*, rather than attempt to translate the term and so it remains today, along with *jonron* for

'home run,' *estrayk* for 'strike' and so on. On the other hand, some of the tribes of aboriginal America, upon first coming in contact with the horse, called it 'large dog.'

But however the enlarging of the symbolic resources of a language is accomplished, it can only be done in conformity with the existing formal structure of the language. Any new word taken into Marathi, for instance, must be assigned to a particular 'gender' category. (Quite often such borrowed words are given grammatical gender on the analogy of existing forms of similar connotation.) Thus when Marathi began to use the English word 'table' it was assigned to the formal class of 'neuter' regardless of the fact that in English it has no formal gender. 'Table' in Marathi, furthermore, is not neuter because of any significant psychological or other consideration, but merely because all words in Marathi must have membership in one of the three grammatical gender classes. In Marathi, as in any other language which has 'gender,' a word simply cannot hover about in suspended animation without establishing itself in the formal structural system of the language.

These differences in the structuring of experience as between the formal systems of English, Spanish and Marathi are rather simple examples, though they serve to illustrate this phenomenon. There are far more radical differences as between other different languages, but they are beyond our present scope. The differences cited are not particularly significant nor are they insurmount-

able. They are, however, inconvenient and interfere to a greater or lesser degree in the process of going from one language to another. To the speaker of English particularly, the distinctions in so-called gender in Spanish and Marathi are especially trying since they are alien to anything within his own system of symbolic reference, and he generally considers them to be rather superfluous and senseless distinctions. The speaker of Marathi, on the other hand may be a little non-plussed in the face of what he may deem the negligence of English in failing to make distinctions which his system of reference and his formal linguistic structure deem mandatory, but he usually soon gets used to the idea. The speaker of Spanish learning Marathi would probably accept without much ado the added 'neuter' of Marathi. But he will probably never think of it as other than sheer perversity that a Marathi flower is neuter, when his grammatical system tells him that it cannot be other than feminine, and he will doubtless always be tempted to say *hi phul* for *he phul.*

We have so far considered some of the general functions and roles of language in various contexts of thought and communication, functions and roles that inhere in the nature of language itself. I should like to consider now, all too briefly I am afraid, certain of the more specialized and derived aspects of language.

The subject of the relation of language to race is one that has been hotly debated and fought over more perhaps than it deserves. While it is true that the major

races of mankind can each claim rather important language differences between them, the differences that may and do obtain between sub-groups of a single race are often just as striking. Furthermore, the classification of groups and sub-groups according to physical type on the basis of anthropometric measurements, seldom corresponds to linguistic divisions and sub-divisions. Confusion often arises in this regard through the extension or misapplication of terms of originally purely linguistic classification. Thus it may be argued, to prove a point, that Semitic people do in fact speak Semitic languages, but this is a circular argument—like saying that mangoes are called mangoes because they grow on mango trees—for 'Semitic' is a linguistic classification and not a physical racial one. Similarly, of the peoples classed by the anthropologist according to physical type as 'Armenoid' very few actually speak Armenian.

The relation of language and nation presents a somewhat different picture. The concept of nation as we know it today, that of a sovereign body politic, geographically and otherwise rather strictly defined and delimited, is rather recent relative to the long history of man and to the almost equally long history of language. But new as the concept may be, it is today firmly entrenched throughout a large part of the 'civilized' world. Along with the ever growing fanaticism with which the concept of a sovereign nation tends to be regarded, we have seen develop a cult of linguistic nationalism and linguistic chauvinism. In the attempt to provide symbols for national identity, language differences

have been discovered to be ideal for the purpose, and as a result antagonisms have grown up between languages where none existed before. And with the growing use of linguistic symbols for national entities has arisen the notion that languages and nations should exist in a strictly one-to-one correspondence.

In the United States, for example, it is becoming more and more common to speak of American, i.e., the language spoken in the United States of America, by Americans. This is an obvious attempt, though perhaps unconscious, to point up by the use of different linguistic-national symbols the fact that the United States is a distinct national entity from Great Britain. In the latter nation English, of course, is spoken, though the differences that obtain between that language and "American" are hardly any more significant that the differences that obtain between the New England and the Southwestern dialects of "American."

This more or less modern craze for the ideal of one-to-one correspondence between language and nation often leads to the repression, or the attempted repression of one language in favour of another. Czarist Russia did its best to wipe out the Polish language by forbidding it to be taught in schools in Poland. Modern Italy has tried to surpress German in the territories received from Austria after Word War I. It might be said that such efforts seldom, if ever, succeed. There seems to have been little or no attempts in the past to suppress or impose a language. Quite often a language

representing a superior culture or a more forceful group was taken over by a conquered people gradually, and without any attempts toward its imposition on the part of the conquerors. Thus the Roman Empire gave its language to a great part of Europe, and it survives today in the form of the modern Romance languages: Italian, Spanish, Portuguese, French, Romanian and Romansch. Quite as often the conquered have given their language to their conquerors as being the expression of a superior culture. The Mongols who repeatedly invaded ancient China invariably became assimilated both culturally and linguistically.

Other instances of the results of modern language-nation attitudes are too numerous to give them more than casual mention. The sovereign nations of Lithuania, Esthonia, Czechoslovakia and others, created in Europe after the first World War, were previously little more than language groups upon whom national status was conferred. Often the one nation, one language notion shows itself in the attempts to revive a dead or dying language: Gaelic has been resurrected to serve as the symbol of national identity of the Irish Republic without, it must be said, any noteworthy success. Similarly Hebrew has been established as the symbol of Israeli nationality, though so far Hebrew has enjoyed a much greater success than has been the lot of Gaelic.

But we hardly need look beyond the borders of India herself to seek examples of modern linguistic national trends and policies. The implications of lin-

guistic nationalism in modern India are doubtless apparent to all of us, and too obvious to require elaboration here.

Finally, while we may deplore the essentially misguided trends in linguistic nationalism, we may ask ourselves whether there is not something in the psychology of language itself that may give rise to such trends. And we might very well conclude that there is, for language is without doubt the most potent single force of socialization in human culture. I have noted earlier that human society as we know it is impossible without language, but beyond this very obvious fact, a common speech is a singularly potent force of mutual social identification and of social cohesiveness. Speech as language, as dialect, as sub-dialect and down to the exclusive thieves' cants and the special jargons of particular occupational groups provides a common bond which unites individuals and groups whose interests and orientation may vary from slightly to greatly, and in involved combinations and permutations. The ramifications of group memberships as linguistically determined are numerous, complex and subtle. English unites me in a common, though more or less loose, association with the thief, the mill hand, the farmer and the President of the United States—even despite the fact that my political views may be as different from those of the President of the United States, as my views on the ethics of acquiring property may differ from those of the thief. Certain features of my speech, however, perhaps my diction and my vocabulary, will set me in a

sub-group—possibly one based on considerations of age or of education—which excludes the farmer and the President equally; and the cant of the thief will exclude me from his small group just as impartially as it excludes the farmer and the mill hand. More or less consciously all of us tend to feel identity and sympathy with different groups, in varying degrees, on the basis of language, of dialect, of jargon or of cant. The use of the word *bolun* in the expression *"Śivājī bolun tsālun ek Marāṭhā hotā"* is no mere accident, but deeply significant from the standpoint of the psychology of language.

But the same psychology that makes of language the greatest force of human socialization also makes it potentially the strongest force of group exclusiveness and separatism. This is a subject that has so far received little attention from language scholars. The psychology of socialization, of group inclusiveness, may be made to have the opposite and harmful effect of mutual exclusiveness of language groups, giving rise to antagonisms of a linguistic nature and blinding the antagonists to the host of cultural features jointly held. This is a very pertinent problem that India faces today, and which she must bend her greatest effort to solve. For myself, I wish her nothing but the fullest success.

II

DESCRIPTIVE LINGUISTICS

In the course of my previous lecture I touched, all too briefly, on the subject of the formal characteristics of language. I should like, at this point, to say a bit more on the subject of language as a formal system, before passing on to the main topic of this lecture: a discussion of some aspects of the analysis and description of language as a system of form.

Language exhibits an essential perfection and a completeness of form that is evidenced by no other single aspect of human culture. As a study of form, language should commend itself to the logician, the mathematician, the aesthetic philosopher and even to the artist, for nowhere else can formal relationships be better appreciated than in language. And, in point of fact, the study of language as form has, in the recent past, been increasingly attracting the attention of a wide variety of non-linguistics. The formal completeness of language, furthermore, having nothing to do with cultural content is evidenced equally by such refined forms of speech as classical Sanskrit and modern English on the one hand, and such primitive languages as the speech of the Fuegian and the Hottentot on the other. In fact, it is generally misleading to speak of 'primitive languages' for this conveys the impression that the lan-

guages which we so term are themselves as languages, in their purely formal structure, in a primitive state of development. It is extremely unlikely that we could find anywhere in the world today a truly primitive language in this sense. We should rather then speak of the languages of primitive peoples and thus make it perfectly clear that what is primitive is the *state of cultural attainment of the people who speak such languages, and not the languages themselves.*

Formal content and formal completeness are two distinct considerations and should be kept rigidly apart. It is the failure to do so which leads to unfounded value judgments, to so much misinformation and myth and, in general, to so much nonsense being talked about language. There has never been a language known that was not perfectly capable of fulfilling its various functions in its own milieu. Sanskrit served the people of Ancient India in the expression and communication of their ideas and in the exploration and organization of their experience, no better and no worse than his language serves the Fuegian or the Hottentot for the structuring and organizing of *his* experience. All too often, almost universally, in fact, we exhibit our contempt for one language or another as being crude, or primitive, though the object of our contempt is in reality the cultural level of the society speaking that language. Language itself is never crude or primitive, but language being the most convenient symbol by which we may identify a people, it tends to get all the blame. We may hear it said, for instance, that Fuegian is crude as compared with modern

English because the Fuegian cannot discourse on Einstein's theory of relativity, the policy of *laissez faire* or the moral philosophy of Bertrand Russell. But while we make the value judgment in terms of language, what we actually have reference to is the cultural content of Fuegian and the cultural level of the Fuegians as contrasted with modern English and present day Anglo-American civilization. And even here a value judgment is unsound and biased because we are dealing with matters which are beyond the realm of experience of one group, namely the Fuegian. The Fuegian in all probability has never found it expedient to indulge in abstractions of an Einsteinian order, and though he no doubt has his own moral code, it probably lacks the refinements of Lord Russell's. But there is absolutely nothing in the formal system of his language that would prevent the Fuegian from dealing with abstractions of whatever nature. The language would doubtless first require lexical enrichment, as by borrowing or by the extension and recombination of existing forms, but we may be assured that whenever the Fuegian decides to take up relativity, political theory and moral philosophy, the formal structural system of his language is not going to stand in his way.

Applying the common standard of judgment on language a bit closer to home, we might hear it said that Vedic Sanskrit is crude as compared with the Sanskrit of the Brāhmaṇas and Upaniṣads. Here the thing is more transparent since we are obviously dealing with a single language. What we have reference to is quite clearly two distinct levels of cultural development. That

the statement of relative merit is put in terms of language is due to the fact that most of us do not take the trouble, or do not know enough, to distinguish between the cultural content and the purely formal aspects of language. In terms strictly of cultural content, the statement that Vedic Sanskrit is less developed than Brahmanical or Upanishadic Sanskrit must be allowed to stand, for none of us will deny that the former represents a cultural stage prior to the latter. But the important factor to note is that the formal apparatus of the two is essentially the same, and that it in no way hampered the more detailed and more abstract organization of experience of the Brāhmaṇas and Upaniṣads as compared with that of the Vedas. By restricting ourselves rigidly to the vocabulary of Vedic Sanskrit we would find it difficult to deal with the elaborate philosophical abstractions of the later periods. But the raw materials were there and the formal apparatus in no way affected, nor was itself affected by, the continuing and ever-broadening process of exploration and organization of experience as Ancient Indian civilization progressed from the level of Vedic times to that attested in the Brāhmaṇas and Upaniṣads.

Now the perfection and the subtleties of form in language are not immediately obvious—except, perhaps to the linguist, and not always to him. They require thorough analysis and description. The situation is not without parallels. Who, for example, can fully appreciate at first sight the perfection of form and style of a Buddha of the Gupta Period, or of one of the many delightful figures in the panoramic Descent of the Ganges?

It is only after more or less prolonged contemplation and analysis that we can fully appreciate such works of art. Similarly with language, though here the process is more prolonged, the subject being of a very complex nature. But the method is, in essence, the same: observation and analysis.

The techniques which we employ in the analysis and description of language are generally known as Descriptive Linguistics. The general term Linguistics includes in addition the historical and comparative study of language. The latter two disciplines are not unfamiliar to you; they have a longer, more connected history in India than possibly anywhere else in the world. It is very much otherwise with linguistic analysis which for too many centuries has, in practically every civilization that has concerned itself with language studies, played a very muted second fiddle to its two sisters. The preoccupation with the cultural content of language, with its implications for cultural as well as linguistic history, that is, with language as a means, has almost invariably eclipsed the forml study of language as a worthwhile and fruitful end in itself. Or else the notion has arisen and gained wide currency that historical studies (which are essentially investigations of the cultural content of language) were definitive, and that their findings and speculations included or otherwise rendered superfluous the investigation of language as pure form.

The weight of the Graeco-Roman tradition of philosophical speculation about language had, until fairly recent times, kept before us a somewhat distorted picture

of language, and had consistently led us into one linguistic cul-de-sac after another. Then, a bare 200 years ago two men, themselves 2,000 years apart, combined to revolutionize and to reorient Western Linguistics. These two men were Pāṇini and that British judge in India, Sir William Jones. It was largely through the interest and linguistic training and inclinations of Sir William Jones that Pāṇini, his successors Kātyāyana and Patañjali, and his predecessors the author of the Nirukta and the compilers of the *Prātiśākhyas*, as well as Sanskrit literature in general, were introduced to the West, thereby giving us a new perspective on language and forcing us to revise completely and to reorient the traditional modes and aims of our linguistic pursuits.

While the Greeks and the Romans were theorizing and philosophizing about language, Pāṇini in India produced his *Aṣṭādhyāyī* which the late Professor Leonard Bloomfield has characterized as "one of the greatest monuments of human intelligence." * It is a work which remains to the very present, the greatest, most complete and detailed analytical study of language. I do not, by the way, wish to give the impression that the Greek and Roman grammarians produced nothing worthwhile. But while they did leave us many interesting and valuable documents on Greek and Latin grammar, the fact is that linguistic analysis as an independent science never prospered with them. There was always too strong a current

* Leonard Bloomfield, *Language* (New York, Henry Holt & Co., 1933) p. 11.

to theorize rather than to analyze and describe, and Greek and Roman linguistics never attained to full development as did Indian linguistics with Pāṇini's *Aṣṭādhyāyī*.

On the other hand, of Pāṇini himself two things must be said. One is that Pāṇini did not simply occur; we deny him nothing and we may call him genius, but he was not an isolated genius. Pāṇini was but the culmination of a long tradition, though his predecessors, with the possible exception of Yāska, must for ever remain mere names and background shades. Then it cannot be denied that after Pāṇini there was a decline in Indian linguistic studies. We might call Pāṇini the apex, rather than the culmination of a tradition. After him names do shine, some quite brightly as Kātyāyana, Patañjali, Hemacandra and Candragomin. But on the whole, even in India, the analytical study of language did not take a strong hold, and what we have after Pāṇini are mainly commentators and imitators, while most of the work done was of a primarily historical nature, with some comparative, practically everything being referred back to Sanskrit as described in the *Aṣṭādhyāyī*. There have been some high points in the history of language studies in India (though none to equal Pāṇini) but there are no sustained plateaux, so that today, in the country which gave it its fullest expression, the scientific analytical study of language is neglected and all but forgotten.

But we have come, in the West at any rate, full circle and today linguistic analysis has been re-established as a full-fledged science. (Though it pains me to

admit that it claims as yet a small following—due to nothing else, I hope, than that it is still in the infancy of its first rebirth).

It is in the United States that descriptive linguistic analysis has received much of its elaboration and where it is most widely accepted and most firmly established. We are not, nor have we ever been alone, and we acknowledge our indebtedness, particularly in the field of phonetics, to Europe and elsewhere. But the United States has been blessed with a singularly rewarding variety of unrecorded and hitherto unknown languages, totally different in every way from the Indo-European languages which were the first, beginning in the eighteenth century, to benefit from the scrutiny of a renewed interest in scientific linguistics. It was largely out of the application of the methodology of the Indo-Europeanists to the unrecorded languages of aboriginal America that the methods and techniques of modern descriptive linguistics were evolved. And while the scholars who contributed to the development and establishment of this discipline are too numerous to mention, one cannot pass without mentioning perhaps the three greatest, Franz Boas, Leonard Bloomfield and Edward Sapir. They, more than any others, are responsible for the rapid progress of analytic linguistic methods and for the establishment of descriptive linguistics as a science, both as active workers and contributors and as teachers.

The field of Descriptive Linguistics is commonly divided into Phonology, Morphology and Syntax. Though one can never completely divorce one of these

from the other two, they are convenient generalized aspects of language, and it will be easiest to discuss the topic before us under these headings.

All languages are phonetic. That is, to perform their various functions, all languages make use of sounds produced by what we choose to call the organs of speech. The physiology of the speech organs is beyond our present cope, but it is worth noting that what we term the organs of speech are only secondarily so. Each such organ has another, primary function and each has its counterpart in the physiological make-up of certainly all the higher mammals. In other words, our evolution into the human species did not equip us with special organs for this most singular of human achievements, so we simply made use of organs which we already possessed for specified physiological functions. Language might thus be said to be an afterthought to our attaining human status. The sounds which man can and does produce in the business of speaking are rather numerous in the aggregate. They range from the (to us) familiar vowels and plosives—*p*, *t*, *k*,—and so on, to voiceless vowels, to the implosives of some of the West African languages and the famous 'clicks' of the Bushman and Hottentot. In practice, however, individual languages make use of a fairly limited number of all possible sounds. The study of these sounds and of their structuring comes under the two headings of Phonetics and Phonemics.

Phonetics is concerned with the sounds of speech as sounds, without particular reference to any signifi-

cant function. It is a rather exact, as well as exacting, science and provides the linguist with the raw materials of speech, the phones, on which his analysis and description rest. Any utterance, in any language, is a continuous sound event. It is the business of phonetics to segment the utterances of a language into their smallest convenient and workable elements, and to describe these.

The phonetician views an utterance as a physiological event, as involving so many features of articulation. He describes the segments of any speech event in terms of convenient minimal sums of simultaneous movements of the organs of speech. His methods are, like those of any science, based on close observation and attention to detail. In his labours he may be aided by, in addition to his well-trained, acute and indispensable ear, a whole array of more or less complicated instruments ranging from the laryngoscope, a device that permits visual inspection of the voice box (or vocal chords), to kymographs and high fidelity recording equipment. In recent years, thanks largely to the perfection of an instrument called a spectrograph, the phonetician has been enabled to study speech in terms of sound waves. That is, he can now study speech from the point of view of the disturbances of air currents produced by the articulatory phenomena to which he had so long been bound.

In segmenting speech events the phonetician observes the relative occurrence of certain generalized features of articulation, and classifies sounds in terms of coincident minimal sums of these generalized features. Thus, for example, the impulses of breath on which all

speech is dependent, may be allowed to pass into the oral cavity unhindered, thus producing what are called voiceless sounds, or the voice box may be constricted in such a way as to be set in motion by the stream of air, producing what we call voice and giving us the various voiced sounds. Again, the nasal passage may be alternatively opened or closed against the stream of air, thus producing respectively oral (of faucal, or buccal) sounds and nasal sounds. Other features of articulation are: momentary stoppage of the stream of air at one point or another, by the lips or the tongue, followed by a more or less forceful release; the raising of the blade of the tongue toward the hard palate, without stopping the flow of air, and with or without attendant friction; contact of the tip of the tongue with the teeth, the alveolum or the hard palate; a rapid vibration of the uvula, and so on. The phonetician classes the sounds of speech according to various different coincident sums of these features of articulation. Thus: a *voiced, lenis, bilabial stop* indicates that the stream of air is stopped by the two lips, that the release is relatively less forceful and that the voice box is vibrating during the production of the sound. A *voiced, dental nasal continuant* means that the stream of air is uninterruptedly flowing through the nasal passage, that the flow of air out of the oral cavity is stopped by placing the tip of the tongue against the teeth, and that there is voice.

Now just as all languages are phonetic, so also are they *phonemic*. Language exhibits a certain precise selectivity from out of the gross data of phonetics to

produce the minimal significant signalling units which we term phonemes. Language is not the segmental elements, the phones, of the phonetician. We cannot pass directly from the detailed segmentation of phonetics to language, to the complex and subtle patterning of sounds into the significant signalling units of words, parts of words, phrases and sentences. Before it progresses from the level of what is little more than noise, however well segmented, to the level of systematic form and hence of meaningful discourse, language goes through a remarkable process of selection and grouping to construct its most basic pattern of significant symbolic units. This is phonemics. The mechanics of phonemic selection vary more or less from one language to another and probably no two languages have identical phonemic systems or employ the same laws of phonemic solution. But all languages, subject to their own unconscious and arbitrary laws, undergo this symbolically significant process of grouping the unwieldly mass of gross phonetic data into a compact, well defined patterning of significant signalling units, i.e., into a unique phonemic structure. The individual phonemes that each language abstracts—and phonemes are indeed abstractions—are subject to mechanical phonetic modification, but they remain phonemes for all that, whether in the psychology of the language or in the formulations of the linguist.

Now the process of phonemicization may be difficult to understand unless one is either a linguist or a phonetician, or has ever taken the time to examine one's mother tongue, not as the orderly signalling system we "feel" it to be, but as a curious example of continuous

sound events. For the very remarkable fact about phonemes and phonemics is the psychology underlying them. All of us have the certain feeling that our language is based on a more or less limited number of very definite and "real" units of signalling and this astonishing bit of language psychology is mirrored quite often in systems of writing, frequently with marvellous fidelity. But even writing is not necessary, for the illiterate and the man whose language has no system of writing, can very often give us, intuitively, in one way or another, and with wonderful accuracy the phonemic facts of his language. The fact is, however, that inspite of our feeling for phonemes, each language, as the phonetician can show, employs a very large, though finite, number of actual speech sounds with distinctive phonetic features among them varying from minute to great. Let me illustrate with one or two examples from actual languages.

We have in English at least three varieties of phonetic 'p.' That is to say, the stopping of the flow of breath, while the voice box is not in vibration, by closing the lips, may or may not be attended by other articulatory or acoustic features: the sound may be followed by a strong puff of air or it may not, or the stopped-up air may not be released. The first variety we find in the word 'pin,' the second in the word 'spin,' and the third in the word 'captain.' Now these three sounds are distinct physiological realities; they can be checked on any of the phonetician's instruments or, with close attention, by the ear alone, and they will be kept rigidly apart in the phonetician's transcription. The symbols commonly used for these three sounds in English are, respectively

p^h, p and p'. Now if we were to ask an illiterate speaker of English what is the first sound in 'pin,' the second sound in 'spin' and the third sound in 'captain' he will invariably tell us that it is p. This despite the fact that we can show them to be three quite distinct sounds. If we ask the same question of the linguist, only substituting 'phoneme' for 'sound' we will get the same answer. Both our illiterate informant and the literate, trained linguist, are giving expression to a deeply felt, functionally symbolic truth about the English language.

I shall elaborate on this, citing an example from Marathi. Take, for instance, the initial consonant of *ḍoŋgar* and the medial consonant of *vāḍā*. (The transcription is intended to mirror the traditional orthography, rather than to indicate accurately phonetic shape). Now these two sounds are phonetically quite distinct: the first is a voiced, retroflex *stop*, and the second is a voiced, retroflex *flap*. If we ask a native speaker of Marathi about these two sounds he will invariably tell us that they are "the same." But what is perhaps even more interesting is the arbitrary mode of identification: the flap is always identified in terms of the stop. I have actually experimented a bit along this line, and I have obtained, in reply to my question about the *flap* in *vāḍā*, the response that it is "the same" as the "ḍ in *khiṛkī*" where the sound (the phoneme) in isolation is identified and produced as a stop, while in the word illustrating it, it is a flap. While this is a good example of the intuitive feeling or phonemes, it is borne out, as are practically all other such cases, by the methods of phonemic analysis of the linguist.

While the linguist and the native speaker, who may well be illiterate, agree on the phonemic identity of given sounds, that is, on the fact that they represent but a single functionally significant unit of symbolism, their arrival at this agreement is by totally different ways. The methods of the native speaker involve meaning, reference to the cultural content of language; those of the linguist do not—they involve purely formal criteria. Put very briefly and simply, the native speaker "feels" that [ḍ] and [ṛ] (Phonetic symbols are always given in square brackets) are "the same" because there is not a single instance in the language where a difference in meaning depends exclusively on the occurrence of one or the other sound, that is, they never function as significant signalling units. Even if we point out to him the phonetic differences between the two, our native speaker will undoubtedly stand by his intuitive identification.

The linguist will arrive at and explain his conclusion differently. His criteria are purely formal and mechanical; his methods and results, in every phase of descriptive linguistic analysis—and it is very important to bear this in mind—never depend upon, nor even necessarily require recourse to, considerations of meaning. The linguist's conclusions depend solely on mechanical data: it is a fact that in Marathi [ḍ] and [ṛ] never occur in identical phonetic surroundings. (The same is true of the three p's of English). Put another way, their individual distributions never show contrasts, but are entirely complementary the one to the other. Where [ḍ] occurs [ṛ] does not and vice versa; the sum total of their combined distributions can be matched with the

total distribution of any phoneme having but a single constituent member or allophone—though the ideal of a one-to-one correspondence in the distribution of two phonemes never quite obtains. The phonemes of the linguist, arrived at analytically *without recourse to meaning criteria,* and the "same sounds" of the native speaker, arrived at intuitively on the basis of their significant functions in terms of meaningful discourse, will invariably correspond. True, there are occasionally discrepancies or exceptions, but these are more apparent than real and can easily be accounted for.

What the foregoing seems to point to is that underlying the cold, analytical formulations of the linguist and, in a sense corroborating the intuitive feelings of the native speaker, there is a psychological reality to phonemes. This is a field of research which has not yet received the attention it deserves. The question was posed and given a thorough treatment by Edward Sapir, one of the most versatile and excellent of American linguists.* Much still remains to be done, as indeed much remains to be done in the field of psychology and language generally, as also in the field of language and logic.

Phonemes are not scattered indiscriminately throughout a language but occur in precisely discover-

* Edward SAPIR, "*La Réalité psychologique des phonèmes.*" *Journal de Psychologie Normale et Pathologique,* 30 (1933): 247-265; now also in *Selected Writings of Edward Sapir,* David G. MANDELBAUM, ed. (Berkeley and Los Angeles, University of California Press, 1949) 46-60.

able and describable patterns. Furthermore, phonemes have no meaning value in themselves, as independently occurring phenomena, but only as they combine with other phonemes, according to precise formal patterns, to form those significant signalling units by which human experience is organized, words. But 'words' takes us one step beyond where the linguist is when he has successfully abstracted the phonemes of a language. Before the linguist can profitably deal with words he concerns himself with forms, with parts of words and words, that is, with the recognized, fixed combinations of phonemes that we call morphemes. This study of forms is called Morphology.

Phonemes, though without meaning value in themselves, are indispensable to the linguist as the signalling devices by which he recognizes morphemes. Morphemes may be defined as *minimal recurrent signalling units of constant phonemic shape.* This is much the same as Bloomfield's definition of a linguistic form as "a phonetic form of constant meaning"* but with an important difference. While Bloomfield's definition invokes the criterion of meaning, ours does not. When we speak of "constant phonemic form" we leave open the question as to whether our forms may be phonetically altered, and morphemes are, more often than not, in their combinations with other morphemes. But whether a given morpheme in the sum total of all its occurrence is altered

* Leonard Bloomfield, *Language* (New York, Henry Holt & Co., 1933), 159.

little, greatly or not at all, is immaterial to morphemics in the larger sense for, like phonemes, morphemes too are largely abstractions. (Nor, for that matter, is the fact that a given "linguistic form" is altered phonetically important to meaning, to the frame of reference of the non-linguistic, and Bloomfield's definition says as much). Our definition is by no means meant to replace Bloomfield's—it merely enables us to remain on the purely formal level of language without recourse to meaning. No matter what phonetic alterations the Marathi stem *bāndh-*, for example, may undergo in its various combinations with other morphemes, it continues to convey "the same" meaning of 'tie,' 'restrain' to the native speaker of Marathi. Similarly the linguist, while recognizing that *bāndh-* undergoes certain phonetic modifications in stated environments, even indicating them where phonetic shapes are relevant, nevertheless deals with *bāndh-*, as a morpheme, in terms of a constant phonemic shape and so transcribes it in citing it or in listing it in his lexicon. *bāndh-* is significant as a *signalling unit of constant phonemic shape*, regardless of whatever phonetic modifications it may undergo. And as a matter of fact, the linguist is usually one up on the native speaker in that he can and does state, quite accurately, the phonetic modifications attendant upon morphemic combination.

If the way in which we learn, or attempt to learn, languages in school and college is any criterion—and it will have to serve simply because it is the only manner with which most of us are conversant—the linguist learns languages backwards. In school we are usually

given lists of words or paradigms to memorize, and vaguely shown how to combine these into phrases and sentences. The method is artificial and the emphasis is on words, which is probably why very few of us ever succeed in mastering another language in school, for words only rarely occur in complete isolation or in paradigms in meaningful discourse. How often outside the classroom, for example, does "she goes" occur immediately after "he goes" and immediately before "we go"? The linguist starts with complete utterances, with the actually occurring data of meaningful discourse, and proceeds to break these down into their component parts. While the native speaker of a language can usually divide an utterance into its, to him, significant parts—usually words—the linguist goes a bit farther and segments utterance into words and parts of words. In other words, down to their irreducible units of significant form, into morphemes.

The linguist's handling of language is little different from the biologist's handling of a laboratory frog. The biologist may, of an evening, sit by a pond or a stream and derive no end of enjoyment and satisfaction from the croaking of frogs. But the next day he will dissect a frog, not as a pleasantly entertaining, croaking amphibian—though he may be particularly interested in the vocal apparatus of the frog—but as a self-contained biological specimen, from the minute examination of which he may expect to derive information of value to general biology. He seeks to prove nothing, such as whether frogs croak more pleasantly than toads. He dissects the frog dispassionately, examining its smallest functional

organs to find out what a frog really is and how it operates, in an attempt to learn something of value to his science. Similarly with the linguist and his analysis of language. The linguist is not interested in who said what in which language, nor whether the Mahābhārata is "better" than the Iliad or vice versa. He handles language quite as dispassionately as the biologist does his laboratory frog. He analyzes language, then describes its formal features. It is the task of the linguist to tell us how a particular language goes about the business of fulfilling its functions as a means of communication and expression, and as a symbolic system of reference. Nothing more. Statements as to the relative merits of one language as against another are irrelevant; they are value judgments without status in the formal analysis of language, like the biologist telling us that frogs are better than birds because their voices can be heard at a greater distance. And while the linguist is always fully aware that he is dealing with linguistically meaningful forms, just as the biologist is aware of the frog as an accomplished croaker, he takes no cognizance of meaning, and is unconcerned whether the language in question boasts a thousand Kālidāsas or none. He deals with language strictly as a self-contained system of formal relations and patterns, of varying degrees of complexity.

Languages vary greatly in the degree of complexity of their grammars. The languages of the world can be classified according to structural criteria, and often have been. (The more usual method of classification is a genetic one, in terms of language families). Such classifications, however, are never entirely satisfactory for

degrees of structural or grammatical complexity do not lend themselves to a rigid compartmentalization but overlap considerably. The question of structural complexity is, however, relevant to the relative tasks of morphology and syntax, for the latter ordinarily takes up where the former leaves off. The two in many instances are not completely separable, for in morphology we often have to deal with the mechanical functions of morpheme words—that is, words consisting of a single irreducible morpheme—thus, in a sense, bringing in elements of syntax for consideration. Morphology and syntax cannot be adequately divorced in such languages as Chinese, for example, where words are said to consist solely of irreducible single morphemes. It would not be proper, however, to say that Chinese has no morphology, for the words of the language are still morphemes, that is, minimal recurrent signalling units of constant phonemic shape. The difference in morphology between Chinese and Marathi, say, is that the morphemes of Chinese do not enter into combination with other morphemes to form still other morphemes—these latter having the status of words generally—while the morphemes of Marathi do. While in the case of Chinese—which is rather uncommon if we consider all the languages of the world—morphology and syntax can practically be disposed of by a single set of statements, such is not generally the case. On the other hand, some examples of classical Sanskrit, with their extraordinary composition, render syntax somewhat superfluous—though not entirely. In such cases, which are rather rare, where we may have whole sentences consisting of a single com-

pound, we would still have to deal with these compounds—essentially words—in their formal patternings with other words into more extended significant discourse.

Fortunately most languages seem to strike a happy medium between the extremes of Chinese and some examples of Classical Sanskrit. We have, that is, with varying degrees, a well developed morphology and a well developed syntax. The latter concerns itself with the structuring into significant discourse of the morphological complexes which we call words.

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III

LANGUAGE AND LINGUISTICS IN INDIA *

In any study of India's present day language problems, due consideration must be given, I believe, to certain aspects of the history of grammatical studies in India. India can boast of a longer, more connected tradition of grammatical studies than probably any other nation in the world. Antedating the Christian era by many centuries and continuing without appreciable gaps right up to the present, the pedigree of the Indian grammarian is unrivalled. The greatest single contributor to the science of language in India, in fact, the greatest linguist of us all, was undoubtedly Pāṇini, whose *Aṣṭādhyāyī* stands quite alone as the most perfect single descriptive analysis of any known language. The countless commentaries on and imitations of his grammar of Sanskrit, its unique place in grammatical studies today and the influence it has had on Indian grammatical tradition, are but small tribute to the measure of Pāṇini's genius. Pāṇini may be gone, but he is far from being forgotten. And it is unlikely that he will ever be forgotten as long as men, not only in India but in other parts of the world as well, interest themselves in the study of language.

It is, however, in a sense unfortunate that Pāṇini is remembered solely in terms of his grammar of Sanskrit. Succeeding grammarians in India have failed to appreciate, or have overlooked, or have neglected another,

* This lecture appeared as an article in *The Economic Weekly* (Bombay), IV. 25, pp. 677-84, June 19, 1954.

perhaps even more significant aspect of Pāṇini's work: his method of investigation. Pāṇini's fame rests today almost entirely on his having composed the best of all Sanskrit grammars; the rigidly scientific nature of his work and the marvellous analytical methods underlying it are almost totally ignored. While there was much writing on Pāṇini himself and on his work, and much more writing *about* grammar, there was never any concerted effort to apply Pāṇini's *methods*, and Indian grammarians never again produced a descriptive analytical grammar in the true Pāṇinian tradition. There were many attempts to do so, and some very worthy ones, such as the Pali grammar of Kaccāyana—often said by tradition to be the same Kātyāyana who wrote the first commentary on Pāṇini—and Hemacandra's Prakrit grammar. But on the whole, while Pāṇini's results, the *Aṣṭādhyāyī*, were accepted his methods were all but totally forgotten.

This has had some rather serious and unfortunate consequences. While an interest in historical and comparative linguistics never lagged in India, the analytical study of language practically ends with Pāṇini. The study of language *as* language, as a worthwhile end in itself, of language as a purely formal system, never caught on. Thus while there was speculation about language, there never was a serious attempt to pursue farther the rigourous methodology of analysis and description to which Pāṇini had given such perfect expression, and the Indian grammarian like his counterpart in Greece and Rome never quite achieved a full understanding of the nature of language.

Now we can probably agree that in order to deal with a problem or even to talk about it, some knowledge of the nature of the problem, of what the problem entails, is desirable if not indeed essential. In practically every field of human endeavour we expect a person to know what he is talking about and we may even demand that he produce credentials to prove that he is competent to deal with or talk about a given subject. Such, however, is not the case when it comes to questions of language. All of us consider ourselves to be more or less competent language experts, though our credentials consist merely of the fact that we can all speak at least one language fluently. We have not the slightest hesitation to plunge headlong into the most awesome language questions, and to discuss language with aplomb and assurance. But since very few of us ever take the pains to observe language *as* language, to try to understand the *nature* of language, our credentials are false and our assurance the assurance born of profound ignorance. In short, when we talk about language most of us have not the faintest notion of what we are talking about, but we can qualify as language experts simply because everyone else is as ignorant as we on the subject, prey to the same general misconceptions about what constitutes language. If this smacks of the peevish grumblings of the academician, consider for but a moment some of India's language problems. If ever a nation was faced with the urgent need fully to understand language, with the need to approach and deal with language with the assurance born of understanding rather than of ignorance, it is modern India. No other nation

in history has ever been faced with language problems of the magnitude of those which India faces today. Almost everywhere there seem to be problems of one sort or another, of greater or lesser dimensions which involve language considerations more or less directly.

Before reviewing some of India's major language problems—and these are so numerous that only a few can be taken up here—a digression is in order.

It has been fashionable for a good many years while discussing India's language situation and the problems arising from it, to draw analogies with other nations. The parallels most often cited are Switzerland and the Soviet Union; recently Japan was dragged into the picture. Now if there is one thing that the makers of analogies must be made to see and see clearly is that India cannot expect to profit greatly from language problems and their solutions elsewhere in the world. The problems that India faces with regard to language are unique, and their only logical and adequate solution lies in their being studied and attacked strictly within the national context. In solving her language difficulties India cannot look to other nations for guidance—as she could in the framing of her Constitution—for no other nation has ever been confronted with even closely analogous language problems. In the interest of economy I shall cite only one or two points in an attempt to show how the oft-cited analogies are inapplicable.

First with regard to Switzerland. Let us not even consider such obvious differences as those of relative area and population. The important point that most of

our analogy makers seem to ignore is that Switzerland has no single national language. The historical circumstances that gave birth to the Swiss Federation were strong enough completely to ignore linguistic differences, and Switzerland as a nation survives to the present day, strong and unified, without a national language—without, that is, a single language to serve as the symbol of Swiss national identity. Four languages have equal status within the borders of Switzerland. Moreover, three of these—French, German and Italian—have always been on an equal footing while the fourth, Romansch, was fairly recently given equal status. The first three have been employed in their respective regions for all purposes since the formation of the Swiss Federation. Furthermore, Switzerland has never had any language development problems. Its three principal languages are among the most important languages in Europe, languages which in their own right, beyond the borders of Switzerland, are the fully developed expression of high degrees of integrated cultural achievement.

The analogy with the Soviet Union is just as inapplicable to India as that of Switzerland, though in one sense, for exactly the opposite reason. Russia does have and had, since long before the revolution, a single national language: Great Russian. This is the language that served as the all-Russia medium of communication in pre-revolutionary days, and it has that same status today. It was the language of Tolstoy, Pushkin, Dostoevsky and Turgenev; of Gorki and Lenin, and it is today the language of Russian science and technology. It is not my intention here to dwell on

language policies of the Soviet Union. I merely wish to point out that the Soviets were never faced with the need or the desire to replace the language of the Czarist regime with another.

The analogy with Japan was drawn recently in an attempt to promote the use of Hindi, the national language of India. It was claimed that if Japan could achieve great cultural, industrial and commercial progress through the medium of her own indigenous language, Japanese, India could certainly do the same through Hindi. This analogy is so transparently ill-suited that the only reason I bring it up is to point up the lengths to which some language partisans will go, either in total ignorance or total disregard of facts (though no doubt with the very best of intentions) to bolster a particular argument. Japan has and has had for countless centuries only one language—Japanese. It has developed as the sole medium of literature, of science, industry and so on—in short, as the sole medium in all spheres of Japanese society and culture. As the only language, Japanese has enjoyed a position in Japan which has never been enjoyed by Hindi—nor by English either—in India. Hindi cannot in actual practice be said to be the national language of India, though it is so recognized by the Constitution, in the same sense that Japanese is the national language of Japan, German of Germany, French of France, and so on. Hindi as the national language of India is a goal at which to aim and not an actual reality. Furthermore, neither Japan, nor Russian, nor Switzerland, nor any other nation, except perhaps Pakistan, has ever been faced with the problem

of deliberately replacing one common, rather widely employed—at least officially—language with another.

Let us now take up some of the problems more or less directly involving language that India must consider. We might first take up the most obvious, if not necessarily the most important, feature of India's linguistic situation: the great number and variety of the languages spoken in India. This is, of course, at the bottom of all language problems in this country, for if there were but a single language there would be no language problems, or at least, those that might exist would have different dimensions and admit of easier handling. The Indian Constitution lists 13 languages, not including Sanskrit, as major or regional languages, but this is far from giving us the full picture. The languages of the Eighth Schedule represent only two language families, the Indo-Aryan and the Dravidian, while in India there are languages of four linguistic stocks actually spoken: the two just cited and the Austric or Munda and the Tibeto-Burman. Furthermore, the Constitution in the Eighth Schedule does not list English, though that language is very prominent in Part XVII. And it is a fact, regardless of the feelings against it among certain sections of the population, that English was and still is one of the most important languages in India.

What, for example, are we to do about Maithili, for which recognition as a regional language and a separate political status are now being sought? And what is to be done about the claims of Sindhi? Granted that there is no longer a Sindh State in India, and that there is no

geographically definable region where Sindhi is the recognized medium—though recently a group of Sindhis has demanded a part of one of the existing states for the purpose of establishing a Sindhi state therein. Granted even that the Sindhis themselves cannot agree on whether to employ the Devanāgarī or the Perso-Arabic script. Still there are some 40,000 Sindhis in Bombay alone who claim that language as their mother tongue and who are not likely to give up that claim lightly—no more than a Sikh is willing to give up Punjabi in the Gurumukhī script, or a Maharashtrian give up Marathi.

This merely serves to point up the fact that there is an inordinately high degree of linguistic self-consciousness in India, and this, I believe, even more than the very obvious fact of the luxuriant variety of languages in India will make for serious difficulties in the solution of problems of a linguistic nature. We need not go far to seek evidence for this language consciousness. The Constitution of India is doubtless the only document of its kind containing extensive and rather elaborate language provisions and safeguards. In the realms of education and politics language is given a stature which it enjoys nowhere else in the world today. Again, we need not go very far to find the evidence. Various states in the Union have recently made important decisions on language policies in administration and the courts—Uttar Pradesh, Madhya Pradesh, Vindhya Pradesh, Rajasthan, Hyderabad, and so on. We have seen the tensions and the unpleasantness attendant upon the creation of Andhra, the first new linguistic state. The

promise of linguistic provinces itself has, implicitly or explicitly, been a strong and prominent plank in practically every political platform for the past 30 years or so. There have been important decisions made in all parts of the nation regarding the medium of instruction at the secondary, college and university levels. Recently, here in Bombay State we have seen legal proceedings involving language policies of the state government, and I am certain that we have yet to hear the end of it.

A very real and very urgent problem is that relating to the development of the national and the regional languages. India, for the past two hundred years or more, has been governed through the medium of English, and it is so today. Because of this the indigenous languages were not able to develop fully. In adminstration, national as well as local, there was a point beyond which the Indian languages were not employed. In the supreme court and in the high courts, proceedings were carried on in English. India's system of government and her legal system were essentially alien plants that were nurtured through the medium of the givers of those plants: English. (Though it must be said to the credit of India that those plants struck deep roots and have flourished). In the educational system, which too was essentially foreign, English prevailed in the upper standards generally and throughout the college and university levels. But it cannot be properly said that the Indian languages did not develop. They did, but along the same lines that they had been developing for centuries previously. It is true, however, that they did not

develop in the essentially new spheres of human activity that would today enable them to deal completely and adequately with the modern world, for those new spheres were carried to India through the medium of English and remained the almost exclusive domain of that language. As a result, it cannot be denied that the Indian languages today—and this applies to Hindi and to the regional languages equally—cannot adequately cope with certain aspects of modern civilization; their vocabularies for science and technology, for example, are woefully underdeveloped. In their present condition, then, Hindi and the regional languages cannot adequately replace English; neither in administration, nor in the courts, nor in higher education, and to push them abruptly into tasks for which they are ill-equipped is to do them a great disservice.

I do not wish to be understood as arguing for the retention of English. Nothing could be farther from the truth. Besides, it is not my place to do so; I am but an observer, and a guest in India. I fully realize that the replacement of English is inevitable for several more or less valid reasons, and that it can only be replaced by the languages of India—the *current spoken languages* of India. But the fact remains that the national and the regional languages must first be given the opportunity to develop properly—that is, they must first be provided with the necessary tools in order that they may deal adequately with what are to them essentially new realms of experience and which have hitherto been the more or less exclusive preserve of English. The tools to which I refer are nothing more, in reality, than properly deve-

loped and wisely selected additions to existing lexicons in terms of vocabularies to cover the sciences, law, technology and so on—vocabularies, in short, to account for the experiential data of those phases of human endeavour from which the Indian languages have hitherto been excluded because of the virtual monopoly of English. This, and a little time for practice to become familiar with the new tools, are all that is needed. However, let us not assume that this is all there is to the whole problem or that its solution is limited to this and therefore simple. Political considerations, among others, have seriously complicated the matter.

In discussions relevant to the need for extending the vocabularies of the Indian languages much ado is made about the danger of interfering with their individual genius. Now I am not sure I know just what the genius of a language—any language—is. But if by genius is meant the over-all structure of the language and its formal processes, in other words, the way in which it goes about the business of fulfilling its functions as a means of communication and as a system of symbolic reference, then we need have no fears on its account. We can add words to a language, that is, we can enlarge or even alter to a degree its cultural content, but this in no way affects the formal structure of the language.

Take, for example, the case of Hindi and Urdu. In their extreme manifestations these two forms of speech are mutually unintelligible. Take all the Sanskrit from the one and the Persian and Arabic from the other and you have Hindustani. Hindi and Urdu are in effect

simply two different forms, somewhat artificially developed, of a single language, Hindustani, the one over-Sanskritised and the other over-Persianised. The situation is reminiscent (to me, at least) of the story in the *Hitopadeśa* of the man who dressed his donkey in a tiger skin. The moment this pseudo-tiger saw another donkey, he brayed and revealed himself for what he was: a mere donkey. Buried under the cloaks of Sanskrit on the one hand, and of Persian-cum-Arabic on the other, lurks, hardly recognizable, a single donkey, Hindustani.

For example, you may if you so choose use *daryā* instead of *nadī*, but if so, you must still say *daryā-se* and not something else, for then you are speaking neither Hindi nor Urdu nor Hindustani. So if you choose to use *pustak* instead of *kitāb*, *puruṣ* instead of *ādmī*, *tālib 'ilm* instead of *vidyārthī*, and so on. Regardless of your choice of *vocabulary*, you can only use that vocabulary *within the prescribed formal patterns of Hindi-Urdu-Hindustani. daryā* and *nadī* occupy the same position relative to *se* and to all other words and particles in the language with which they commonly occur, regardless of their ultimate origin. The recommendations made not too long ago at a conference held in Poona that "there should be a common gender in the use of the Hindi word," that "the use of *ne* as in *mai-ne* should be abolished" and that "Hindi should accept Sanskrit rules of grammar and etymology or should arrive at some uniformity from the study of linguistics of the regional languages" are sheer and utter nonsense. They

betray not only a woeful lack of any scientific linguistic knowledge, but the complete absence of a realistic approach to language. Do away with gender in Hindi, abolish the use of *ne* and give Hindi the seven cases of Sanskrit and you no longer have Hindi. You have an illegitimate Sanskrit, intelligible only to its creator (if indeed to him); a sort of poor man's Indian Esperanto. There are already enough languages in India, it seems to me, without attempting to add to the list a monstrosity of the sort proposed. Furthermore, Hindi and the regional languages have problems enough, and to add bodily violence to these is to add insult to injury.

But I think perhaps I do know what is really meant by the genius of language that is so often cited. At least, it seems that this consideration has something to do with another which we might call 'language purity.' I do not pretend to know just what this is either, but its manifestations are familiar. In Hitler's Germany it gave birth to such words as *Fernsprecher*, that is, a 'far-speaker' to replace 'telephone' which was not 'Aryan.' This phenomenon manifests itself in some of the publications of the Royal Spanish Academy which persists in categorising practically all words of American Indian origin current in American Spanish dialects as 'vulgarisms' and 'barbarisms.' It manifests itself in India in attempts to provide the Indian languages with vocabularies wholly derived from Sanskrit (except in parts of the South where it manifests itself as a process of de-Aryanization), even to the extent of wanting to replace such common words as 'station,' 'photo.' '*mez*' and

a host of similar words which are today as much a part of the Indian languages as they are of the donor languages. Is 'sherbet' any the less acceptable in English because it derives ultimately from Arabic and not from Germanic or Indo-European? These strivings for an unattainable 'purity' in language are merely symptomatic of another, more serious aspect of the language problem in India: the well developed and apparently increasing linguistic regionalism.

In keeping with nationalist trends throughout the world India felt the need for a national language to serve as the symbol of national unity and national identity. But India was faced with rather unique and perplexing problems in this connection. For one thing, India did not have but a single language, nor even one language spoken natively by more than a significant minority of the population. Then again, the one all-India language was non-Indian and owed its predominance in commerce, government, higher education and so on to the fact that it was the language of the foreign rulers, until 1947, of the Indian sub-continent. The retention of English, in any sphere, was quite inconsistent with and a thorn in the side of a strong nationalist sentiment in India, and its replacement was early constituted as one of the important goals in the nationalist movement. And it is a curious fact that since English was the most widely used and understood language, at least among the educated and the intellectuals, the campaign for its abolition has been carried on, up to the very present, largely through the medium of English itself.

One of the most unfortunate aspects of the language phase of the nationalist movement was that no language was early enough put up as *the* all-India medium, the language that was to serve as the symbol of Indian national identity and unity. While in their struggles to constitute for themselves sovereign political entities, the Irish had Gaelic and the Zionists had Hebrew as the unquestioned symbols of their national aspirations and sentiment, India had only Hindi—Hindi Hindustani as Gandhiji used to call it—which by no means was universally acceptable and which came upon the scene comparatively late.

Hindi was put forward as a candidate to fill the role of national language only after regional linguistic self-consciousness had already been aroused and played upon by the largely politically oriented considerations of the linguistic provinces movement. Hindi as a candidate was first mentioned by name in April of 1920 by Gandhiji. In that year both Gandhiji and Lokmanya Tilak had come out strongly for an all-India medium whose eventual task would be to replace English in all those spheres in which that language was paramount. Gandhiji had at the time specified that it should be Hindi, but it was not until 1925 that the Congress adopted Hindi as the future national language of India. Even so the selection was not received with universal rejoicing, and as late as 1949, a few days short of the second anniversary of the independence, the Congress Working Committee having met to decide upon the question of the national language, had to leave the matter open. It was about two months after this that the Constituent Assembly,

not without bitter opposition accompanied by cries of "linguistic imperialism," finally gave official recognition to Hindi as the official language of the Indian Union. But the fact remains that Hindi is still far from being the *de facto* national language of India. Parts of South India are still antagonistic, and here and there is heard a voice crying in the wilderness for Sanskrit, while we are not without an occasional plea for the retention of English.

The idea of the linguistic provinces, on the other hand, was given a coherent form by the 1920 session of the Congress, when the Pradesh Congress Committees were reconstituted on the basis of language. And it is a fact that linguistic factors in provincial realignment were evident as far back as 1894, when Mahesh Narayan of Bihar began agitating for the separation of Bihar from Bengal, a step that was finally taken by the Government of India in 1911. It is *not* my intention here to go into the relative merits of the linguistic provinces movement. I merely wish to point out that by the time the rather amorphous and ambiguous ideal of *an* Indian language to replace English was concretised with the selection of Hindi, regional linguistic consciousness had already begun to assert itself rather strongly. This, as much as any other single factor, has worked against a wider acceptance of Hindi. Continued over-emphasis on the integrity, or the sovereignty, or the right to self-determination of the regional languages, can lead not only to the total eclipse of any hopes that Hindi will eventually become the *de facto* national language of

India, beyond mere constitutional recognition, but may also seriously affect the fabric of all-India unity.

It is unfortunate, but in considering India's language problems one cannot ignore their political implications, although one may remain aloof from active participation in politico-linguistic agitation. Consider the effect that hasty, ill-considered and essentially politically biased decisions with regard to language are bound to have, and indeed have already had, on the very important problems of education and the development of the national and regional languages. Because of an almost fanatic insistence that English be replaced almost overnight, the regional languages are being pushed into tasks for which they are but poorly equipped. Because of the haste with which they are being pushed forward, the problem of their proper development cannot be given the thought and consideration and the thorough analysis which it not only deserves but which are indispensable to it.

In this connection a very important consideration arises almost at once which will have to be taken into account. The question has been asked whether a language can be developed consciously, deliberately. In the light of all our knowledge about language the question is not unreasonable. Such an undertaking has never before, at least not to my knowledge, been attempted, and certainly not on the scale that India's problems require. Language has always developed gradually, its cultural content increased and was enriched as the experience of its speakers broadened. We can, on the basis of historical evidence, as on reasonably evolved

theories, explain the growth and development and even changes in the cultural content of language. Language is a marvellous record of the cultural history of a people. But we cannot do the same for the formal characteristics of language; we know that these change over a more or less extended period of time, so that we have at different historical stages essentially different languages. We can, by comparing various stages of a language, show what these stages consist of, but any attempt to explain why language changes in its formal characteristics is so much wasted energy. We simply do not know why; we can only show how.

We have no reason to believe that we cannot within the existing formal structural framework of the Indian languages explore and satisfactorily organize any new cultural experiences. In fact, we may proceed on the assumption that the formal apparatus of the Indian languages is perfectly capable of dealing with any new cultural experiences to which their speakers might be exposed. The problem then is restricted to considerations having to do with the cultural content of the Indian languages. Historically the broadening or enriching of the cultural content of languages has come about through the contacts of their speakers with new experiences or has grown out of their needs continually to explore and reorganize their own experiences. In the one case the cultural content of language is enlarged quite often by borrowing words from other languages, in the other it may be done by extension or recombination of existing forms. The situation in India is rather unique in that the new cultural experiences, in science, technology, law,

etc., that impinged upon a small proportion of the population were conveyed and dealt with almost exclusively through the medium of English. Since that fully developed and thoroughly familiar tool (to those, at least, upon whom these new experiences impinged) was available for the purpose, the Indian languages were not called upon to deal with and to share in these new realms of experience and their development along certain lines was thus totally precluded, or at the most, was only marginal.

What India is faced with in her wish to develop her own languages to replace English in every sphere of human activity, is the necessity to expose the Indian languages deliberately, somewhat artificially and at a greatly accelerated pace, to the new cultural experiences with which they will be expected to cope. To say, as I did earlier, that what is involved is essentially the need to broaden and develop the lexical resources of the Indian languages, and to give them time to become proficient in their use is, while true, greatly over-simplifying the matter. There are a host of other, very relevant considerations. For one, the haste with which the Indian languages are being pushed to take over unfamiliar jobs, for which they are not as yet properly equipped, makes the need for their development doubly urgent. There is no longer an unlimited amount of time for those on whom this task will fall, or has fallen. And a very pertinent corollary to this, is the question as to whether India does have the properly trained people, sufficient in number to take on this task. I think not. Then again there is the very important question of the direction in

which this development is to be carried out. Because of what I can only term linguistic chauvinistic tendencies, this has already become a real problem. Will not, for example, the attempt arbitrarily to replace wholesale, recognized international scientific terminologies with pseudo-Sanskrit or pan-Dravidian vocabularies, prove an unnecessary hindrance to India's need for continuing contacts in science and technology with the rest of the world? I think it will. And note that in India itself, because of misguided, narrow language loyalties there is a danger of factionalism, of fractioning and of wasteful, unintelligent duplication.

What, it seems obvious to me, is most urgently needed in India today is a thorough, dispassionate understanding of language. I do not wish to intimate that India in this regard is in any way different from other nations, nor that her people are any the less aware of what constitutes language than those of any other nation. However, no other country in the world has language problems of the magnitude of those facing India, so that elsewhere the need for a thorough understanding of language and language problems, though it would indeed be desirable, does not immediately arise. Now the above statement may seem impertinent when made of a culture in which language studies boast of a tradition and a continuity evidenced nowhere else in the world. But I have previously distinguished carefully between historical and comparative linguistics and writing about language on the one hand, and descriptive analytical linguistics on the other, and this distinction must be borne in mind. Historical linguistic studies are con-

cerned with the past not only of language but of peoples. These cannot solve the problems presently before us. The need today is to understand language in terms of the present and, indeed, of the future. We can understand language fully only when we study language in and for itself. Historical linguistic studies cannot give us this. The need is for the analytical study of language, the study of language as language, an end in itself and not merely a means. And this study, it will be found, will prove itself an invaluable aid in understanding language generally, whether we wish to concern ourselves with language in historical, comparative or purely analytical terms (essentially the realm of the grammarian), or in terms of its social, cultural and political implications.

This lecture may be said, in a sense, to constitute a plea—a plea for the revival of descriptive linguistic analysis in India. While I am an enthusiastic partisan of progress, seldom holding with any of the many 'back to the values of our forefathers' movements which seem to crop up periodically in all parts of the world, I should like very much to see started in India a 'Back to Pāṇini' movement. That is, I should like to see done again in India the kind of linguistic work of which the *Aṣṭādhyāyī* is doubtless the most perfect example of all time anywhere. And I seriously feel, as a linguist, that only through the study of language as language can this uniquely human phenomenon be thoroughly understood and that, furthermore, without this understanding, the sane, dispassionate atmosphere essential to the solution of India's language problems cannot be achieved.

MORPHOLOGY

IV

Pronouns and Pronominal Adjectives in Marathi

The criteria by which we group the significant forms of a language—the morphemes—into major form classes and sub-classes are formal, i.e., morphological, and functional, i.e., syntactic. The relative importance of one or the other of these criteria varies greatly from one language to another, and they are not, except in a very few instances, completely separable. We can distinguish, broadly, the two major form classes of Marathi, for example, the Substantives and the Verbs, on purely morphological criteria: briefly, substantives occur with a certain specific range of morphemes, while verbs occur with another. However, equally important in determining membership in these form classes and practically indispensable in setting up sub-classes, is the criterion of function or syntax.[1]

1. Function is here employed in a purely formal sense. That is, we do not say that *tsaŋgla* 'good' is an adjective because its function is to modify nouns, as in *tsaŋgla ghoṛa* 'good horse.' Rather we so class it because in the sum total of its occurrences in the language it will occur in the immediate morphological environment of only a definable, limited set of morphemes, and within a limited range of distributional (or syntactic) positions

For example, we may obtain, on a purely morphological basis, a group of morphemes, *dis-*, *kha-*, *rah-*, *khel-* and others, occurring with a specific set of morphemes, *-to*, *-tat*, *-in* (and *-en*), *śil*, etc. We tentatively label these two groups of forms as class *X* (*dis-*, etc.) and *Y* (*-to*, etc.), and note certain features of interdependence or mutual occurrence; we then further note that the morpheme complexes *XY* show a distinctive distributional pattern within utterances of the language. On the basis of this pattern of distribution we may then proceed to call the complexes *XY* 'verbs,' the group *X* 'verbal stems' and the group Y 'verbal endings.' We will find, however, that our group *X* also occurs with another set of morphemes *Z*, *-ṇe*, *-la*, *ai·tse*, *-ət* (and *-it*), etc., and that the new morpheme complexes *XZ* do not pattern like 'verbs' at all, but like another class *S* (ubstantives) whose members do not occur with *Z* morphemes but with other sets entirely. Our set of underlying forms *X* then, are not completely verbal, for

in any utterance. It is on these facts and on nothing to do with meaning that we classify *tsaŋgla*—and all other morpheme complexes that pattern like it—as an adjective. There is nothing in the phonetic shapes of *tsaŋgla* and *ghoṛa* that would lead us to class one as an adjective and the other as a noun. But we can do so once we have established the relative differences in patterning of the two elements, in the sum total of their environments, morphemically and syntactically. For, example, *tsaŋgla* will occur regularly in *ha . . . ghoṛa*, but not in *ha ghoṛa . . .* , while *ghoṛa* will occur in *ha tsaŋgla . . .* but not in *ha . . . tsaŋgla*.

when occurring with set *Z* they are substantival in function, that is, their distribution then matches that of the morpheme complexes which we call *S*. We have then a class of morpheme complexes *S* (say, *P* (stem) + *Q* (ending)) and *V* (*XY*), which we have established solely on the basis of morphological features. We also have a class of morpheme complexes verbal in terms of underlying forms (*dis-, kha-*, etc.), occurring with a unique set of endings *Z* and whose distribution (function) is like that of the class *S*. We may call this a 'verbal substantive' sub-class of the major form class 'Verbs'—'verbal' in terms of the underlying forms and 'substantive' in terms of distribution or function. Our classification here then, is both morphological and syntactic.

Some of the problems and techniques of morphemic analysis are illustrated below with the Pronouns and Pronominal adjectives of Marathi.

1·0 Pronouns are formally and functionally a particular sub-class of substantives. While they show, with exceptions, the morphological features characteristic of the substantives as a class, their function is rather unique: substitution. Wherever we have a *N* (oun) or a noun phrase (*NP*), we may substitute for it a *Pr* (onoun) or, in the case of the third person only, a demonstrative adjective. The various forms of the Marathi *Pr* are given in the accompanying table (I).

TABLE (I)

Person	Gender	Absolute Sing.	Absolute Pl.	Indifferent Sing.	Indifferent Pl.	Oblique Sing.	Oblique Pl.
1st	M.	mi	amhi			mə-	amha-
	F.					məz-	am-
	N.					ma-	
2nd	M.		tumhi	tu			tumha-
	F.						tum-
	N.						
3rd	M.	to	te			tya-	tyan-
	F.	ti	tya				
	N.	te	ti				
Ind.	M.	apən		ap		apṇa-	
	F.	koṇ		swətə		apl-	
	N.	koṇi				koṇa-	

1·1 It must be noted that there is in Marathi no independent third person pronominal morpheme. This function is served by the demonstrative adjecitve *t-* (*to, ti, te,* etc.) 'that,' less frequently by *h-* (*ha- hi, he,* etc.) 'this.' Since functionally we may say that we have a third person pronoun, we include *t-* in our table. This stem similarly serves as the basis for the 3rd pers. pronominal adjective.

1·11 *apəṇ* may substitute freely for any of the personal pronouns (and for the demonstratives in their personal pronominal function), but not for *amhi.*

Wherever it replaces *amhi*, it serves the function of an inclusive *Pr.* That is, *apəṇ* is 'we' including the person(s) addressed, and *amhi* is 'we' excluding the person(s) addressed. Elsewhere *apəṇ* is quite often an honorific.

ap is an alternant of *apəṇ* (see Appendix A) and is reflexive. That is, wherever it occurs it has reference to the subject *N* or *NP.* It is a rather restricted morpheme occurring only in such phrasal compound types as *ap apla* 'each one's' and *ap sath* 'with self' (or selves). Thus *ti mhatari maṇse tyanca bərobər bolət hoti* 'The old men were talking with them,' but *ti mhatari maṇse ap sath bolət hoti* 'The old men were talking amongst themselves.' So also, *mulani apli pustəke watsli* 'The boys read their own books' but *mulani ap apli pustəke watsli* 'Each boy read his own book.'

apəṇ has another alternant *apl-* on which the possessive adjective is made. (See Appendix A).

swətə is another reflexive pronoun, indifferent as to person; it is not a common morpheme, occurring for the most part in compounds.

koṇ is both interrogative and indefinite. *koṇ* and *koṇi* are said to be completely free variants, but in actual practice, *koṇi* is almost always indefinite while *koṇ* is only infrequently so. Note, however, that *koṇi*, as in *te koṇi kele?* 'who did that?' is not the indefinite but the interrogative. Here *koṇ* exhibits the unique

alternant *-i* of the morpheme *-ne* 'by' (agent), the usual formation in certain expressions of past time.

2·0 Like the nouns and noun phrases for which they substitute the pronouns have two stems: absolute and oblique. In the derivation of their oblique stems the pronouns fall, with exceptions, into a sub-class of substantives making their oblique forms in *-a*.[2] The oblique form of any substantive (or substitute) occurs within the domain[3] of postpositions (*-la, -na, -t,* etc.), of such words as may function as postpositions (*zəwəḷ, bərobər, wər,* etc.) and of certain derivative suffixes (*-ts-, -tl-*). The oblique forms may also occur as first members of compounds. However, while the substantive class as a whole shows great regularity in the derivation of oblique forms, the pronouns do not.

2. To this sub-class belong the majority of m. and n. substantives in -C. *ḍoŋgər* 'mountain': *ḍoŋgrala* 'to (a) mountain' (m.); *kam* 'work': *kamat* 'at work' (n.) and so on. Feminine substantives in -C generally make an oblique form in *-i* or *-e,* while the majority of all substantives in -V, make an oblique in *-ya.*

3. The domain of an element is constituted of those elements within an utterance or a given portion of an utterance, which have that element in common. Thus in Marathi, for example, the domain of 'masculine singular absolute' is the entire noun phrase. 'Domain' is not significantly different from the traditional 'grammatical agreement.' However, rather than talk about adjectives, etc., in 'agreement' with nouns, we deal with discontinuous elements (morphemes) and their domains. Thus we do not say that *mazha dhakṭa bhaw* is a *NP* consisting of three words, or of five morphemes: *mazh-, -a, dhakṭ-, -a* and *bhaw.* We say instead that it is a *NP* consisting of four morphemes: *mazh-, dhakṭ-, bhaw,*

2·1 The majority of substantives show but a single oblique stem; some, like *bazu* 'side,' show only one stem in all environments: *hi bazu* 'this side' and *tya bazula* 'to that side.' Of the pronouns *tu* patterns like *bazu; koṇ* shows a regular derivational pattern, while *mi, amhi* and *tumhi* require special treatment, as does *apəṇ* (for which see above). Furthermore, *mi* and *tu* show a unique alternant, *-zh-*, of the possessive adjective derivative *-ts-*. The accompanying table (II) shows the distribution of the pronominal morpheme alternants relative to the postpositions (represented by *-la*) and the possessive derivative morpheme *-ts-*.

plus the discontinuous morpheme $< a >$, *i.e.*, masculine singular absolute, whose different forms or morpheme alternants and their relative distribution we will have previously described, and whose domain is the whole *NP*. Such a method of description will, in the long run, simplify our morphology and syntax. Since each constituent of a given part of an utterance (a phrase) shares in common with the other constituents a single feature of morphology, we can deal with the constituents jointly—as a *NP* in this case—rather than singly. We simply state that in an absolute environment (as above) our *NP* is characterized by the (discontinuous) inflectional morpheme $< a >$, and that in an oblique environment it has the inflectional morpheme $< ya >$, 'masculine singular oblique,' i.e., *mazẖa dhakṭya bhawala* 'to my younger brother' (where the *-a-* of *bhawa-* is an alternant of $< ya >$). The *NP*, whose membership we will have previously defined, may contain *n* number of elements, but we may still deal with it as a formal functional whole in terms of its absolute or oblique environmental features. (On discontinuous morphemes, see Zellig S. Harris, *Methods in Structural Linguistics*, and Language, 21, 3, 1945).

TABLE (II)

Pers. & No.	Env.	Abs.	Obl. -la	Obl. -ts-/-zh-
1 Sing.		mi	mə- məz-[1]	ma-
1 Pl.		amhi	amha-[2]	am-
2 Sing.		tu	tu	tu
2 Pl.		tumhi	tumha-	tum-
3 Sing.		to	tya-	tya-
		ti	ti-	ti-
		te	tya-	tya-
3 Pl.		te tya ti	tya-n-	tya-n-
Ind.		apəṇ koṇ koṇi	apṇa- koṇa-	(apl-) koṇa-[3]

1. *məz* is restricted to the immediate environment of *-wər*, and even here there is a free alternation *məz-* : *maźha-*, i.e., *məzwər* and *maźhawər* 'on me.'

2. Note that while all other plural substantives show *-a* 'to' on the derived plural stem in *-n-* (*ghoṛ-ya-ts-a 'horse's'* : *ghoṛ-ya-n-ts-a 'horses"*) *amha-* and *tumha-* show *-la*, which otherwise occurs only with the singular oblique forms: *məla* 'to me,' *amhala* 'to us,' but *ghoṛyala* 'to the horse' and *ghoṛyana* 'to the horses.'

3. On the apparent contradiction of *koṇts-* alongside of *koṇats-* see App. B.

The Pronominal Possessive Adjective:

3·0 Although the pronouns do not show it clearly because of their irregularity, the possessive adjectives show a secondary level of derivation—that is, the stems in *-ts-* (and those in *-tl-*) are made on forms which are themselves derived and which do not, strictly speaking, occur freely. On the criteria for setting up a sub-class "possessive adjectives" see Appendix C.

3·1 *ḍoŋgər* 'mountain,' for example, shows the oblique form *ḍoŋgra-* in *....zəwəḷ* 'near the....,' in *.... la* 'to the ....,' etc., and the same form in the immediate environment of *-ts-* 'of :' *ḍoŋgratsa paytha* 'foot of (a) mountain.' So for the majority of substantives. The exceptions would seem to be those nouns in *-u*, *bazu* : *bazula* : *bazutsa*, etc., and in *-i*, *ai·* : *ai·la* : *ai·tsa* which, however, may be considered as showing an oblique form in zero before *-la*, *-ts-*, etc., since we have defined the domain of the postpositions and derivative suffixes as the entire *NP*.

3·11 While *ḍoŋgra-*, *ghoṛya-* and so on, are obviously not freely occurring forms neither, if we wish to be completely rigorous, are *maźha* and *dhakṭya* (in *maźha dhakṭya bhawala*...'to my younger brother...') nor *any* of the oblique forms of substantives. This may seem a somewhat perverse statement, or at least a startling one, for we traditionally consider such forms as *maźha* and *dhakṭya*, above, to be 'words.' We write them separate from other 'words' in any utterance and we can replace them with other 'words' of similar form

without affecting the formal structure of our utterance. But our feeling for 'words' and our orthographic conventions notwithstanding, forms such as *maźha*, etc., do not fully satisfy the requirements of the usual definition of a *free form* nor, for that matter, of *word*. If we accept Leonard Bloomfield's definition, "A linguistic form which is never spoken alone is a *bound* form; all others (as, for instance, *John ran* or *John* or *run* or *running*) are *free* forms,"[4] then we must conclude that *maźha*, *dhakṭya*, etc., are bound forms, for they are never in reality spoken alone. Such forms occur only within the domain of postpositions, derivative suffixes and so on—that is, in oblique environments.

So also *koṇa* in *koṇa mulala* .... 'to any (some) child ....' is as much a bound form as is *koṇa-* in *tu koṇala pahiles kay?* 'Did you see anyone?' For while in the first utterance *koṇa* is not in the immediate environment of *-la* it is still within the domain of *-la*, and it is as much formally required as is *koṇa-* in the second utterance. So long as *-la* occurs we must have *koṇa* and not *koṇ* or some other form.

Even if we were to obtain the form *ramatśa* 'Ram's' as a complete utterance in response to the question *tu*

4. Language, 160. On p. 178 Bloomfield then defines a word as "a free form which does not consist entirely of (two or more) lesser free forms; in brief, a word is a *minimum free form.*". Thus while *maźha* meets one condition—it consists of the three *bound* morphemes *ma-*, *-zh-* and *-ya-* it does not really meet the condition of being a free form, for its immediate constituents (*mazh-* and *-ya*, rather than *maźh-* and *-a*) are dependent upon the occurrence of *-la*.

koṇatśa bhawabərobər kam kərtos? With whose brother do you work?' we cannot properly say that it is spoken independently. It has occurred in response to another utterance and its very form—oblique—is formally required by certain formal features of the preceding utterance. In response to that question we cannot have simply *ram* or *ramatsa* or any other single morpheme or utterance that is not oblique in form. We may have a response consisting of *n* number of elements, but these must show certain features of obliqueness. Similarly, if we with to replace *bhawa-* we may do so only with another noun in the oblique form: *bəhiṇi-* but not *bəhiṇ* 'sister,' *mula-* but not *mulga* 'boy.'

Formally then, *ramatśa,* as a complete utterance, is as much a bound form as any one of its constituent morphemes. In meaningful discourse the domain of the absolute and oblique discontinuous morphemes extends beyond the immediate *NP*. (See Appendix D for further discussion).

3·2 Although the pronominal possessive adjectives are in every sense adjectives we may, because of their uderlying forms deal with them here, together with the pronouns of the language.[5]

5. However, in the larger work of which the present is but a small part—in the complete grammar of Marathi—all adjectives, in fact, all substantives, will be treated together as a major form class with, of course, special statements as required for particular sub-classes. To do otherwise would entail having to make certain sets of statements more than once, a violation of one of the cardinal rules of linguistics, economy.

3·21 In Table II above we have in the third column the underlying forms of the pronominal possessive adjectives. For convenience of reference we may list them here again, together with the secondary derivative suffixes.

Pers. / No.	Sing.	Pl.	Ind.
1st	mazh-	amts-	
2nd	tuzh-	tumts-	
3rd			
M & N	tyats-	tyants-	
F	tits-		
Ind.			apl-, koṇats-

An additional characteristic of the pronominal possessive adjectives is that the underlying forms show no formal distinction as to gender. While this statement does not hold true for *to, ti, te,* etc., it must be noted that we are treating these with the pronouns merely as a matter of convenience, for they are properly not pronouns (in the sense that *mi, tumhi,* etc. are) but really demonstrative adjectives. The possessive adjectives made on nouns (and on the demonstrative adjectives—see above) show generally a dichotomy, feminine on the one hand, and masculine and neuter on the other. Thus *ghəratsˉ* < *ghər* (neuter) and *ḍoŋgratsˉ* < *ḍoŋgər* (masc.), but *bagetsˉ* < *bag* (fem.) and *bəhiṇitsˉ* < *bəhiṇ* (fem.). Both sub-classes show distinction as to number: the pronouns by means of (in the first two persons) different forms, *mazhˉ* : *amtsˉ* and *tuzhˉ* : *tumtsˉ*, all others by means of the suffixal morphene *-n,* which precedes the secondary possessive derivative morphene *-tsˉ*.

3·3 We now have simply to state the substantival inflectional morphemes, and make the general statement that our stems above always occur within the domain of one of the (discontinuous) morphemes, as do, in fact, all substantives. These morphemes are:

No.	Abs.			Obl.		
Gender	m.	f.	n.	m.	f.	n.
Sing.	-a, -o[1]	-i·[2]	ə, -e[3]		-ya[2]	
Pl.	-e	-ya[2]	-i·[2]			

1. *-o* only with *t-* (demons.) and *dz-* (rel.) and with verbal substantives in the sing. and pl.; *-a* elsewhere.

2. Palatalizes a preceding spirant: *mazha ghoṛa* 'my horse' and *maźhi ghoṛi* 'my mare'. *amtsa bhaw* 'our brother' and *amtśa bhawala* 'to our brother'.

3. *-e* consistently only with *t-*, *dz-* and *h-*, everywhere else generally -ə. However, -ə may always be replaced by *-e*, though this is only rarely done in actual practice. (The traditional orthography has everywhere *-e*, in fact, *-ẽ*, and this is considered the more 'correct' form.)

3·31 These inflectional endings are discontinuous morphemes and each has (at least) a zero alternant. *-ya-* (obl.) has also, with feminine substantives before secondary derivative suffixes, the alternants *-i* and *-e*. The pronominal possessive adjective stems must always show an alternant of one of these morphemes: *mazha*

ghoṛa 'my horse,' *maźhi bəhiṇ* 'my sister,' *tumtśa wəṛlantśa hatat* 'in your father's hand,' *koṇatsə hirwə pustək?* 'whose green book?, and so on.

4·0 There is yet another sub-class of substantives which, because of their peculiarities of form and function can profitably be considered here. One of these is the demonstrative *t-* which we have already treated above for convenience, as it functions as the third personal pronoun. Others are *h-* 'this,' the relative *dz-* and the two interrogative and indefinite adjectives *koṇt-*, with a free variant *koṇts-*, and *kəs-*, with a free variant *kəsl-*.

These morphemes are formally and functionally substantives; they show the same inflectional endings as all other substantives: *koṇtə pustək?* 'which book?' *koṇtśa maṇsana* 'to what (which) ever men,' *lok kəśi tuźhi waṭ pahat ahet* ... 'how people are waiting for you....' *dźi ləhan mulgi kal yethe hoti* 'the little girl who was here yesterday,' and so on. Note that in all the above examples the function of these forms is adjectival. However, they may also function as pronouns: *hi kəsli* (*ahe*)? 'what is she like?' (cf. *hi phar sundər mulgi* (*ahe*) 'she is a very pretty girl.'), *dzo kam kərto, tyala phəḷ miḷte* '(he) who works gets the fruit (of his labours),' *tula koṇtə dislə*? 'which did you see?' or 'did you see any?' (The difference in meaning is a function of two distinct intonation or contour patterns). In forming the possessive adjective the oblique stems of these morphemes show the same gender dichotomy as the

nouns : *bhaw* : *bhawatsa* : *dźatsa* and *manzər* 'cat' (n.) : *manzratsa* : *dźatsa*, but *bəhiṇ* : *bəhiṇitsa* : *dźitsa*. In the plural, however, this distinction is lost, so that *dźantse ghoṛe*, for instance, is simply 'whose horses' with no formal indication as to whether *dźantse* is a substitute for *ram aṇi tyatsa bhaw* 'Ram and his brother,' for *tya mhatarya* 'the old women,' or for *hi· maṇse* 'These men.'

4·1 These morphemes exhibit the attributes both of the substantive form class as a whole and of the substitute sub-class, but perhaps more of the former than of the latter. We may therefore classify them as a particular sub-class (other than pronominal) of the major form class *S*.

Appendices

A

One could of course, make a statement or a series of statements for deriving *ap* from *apəṇ* (possibly even the other way around, since historical facts of derivation may sometimes go against descriptive efficiency—see below). So also for deriving the various forms of the other pronouns one from the other. And while in historical terms such a course is desirable—mandatory, in fact, since derivations are perhaps the most important function of historical linguistics—descriptively, any such course would serve no practical end. For one, any statements on derivation for such limited phenomena would seem artificial and contrived. Then too, to have a more or less elaborate statement, or set of statements, merely to accommodate one or two unique instances would be grossly uneconomical, and economy, as stated elsewhere, is one of the fundamental rules of linguistics. It is much simpler, much more economical and efficient, simply to say that a given form has an alternant, or alternants, occurring in stated environments. Furthermore, aside from seeming contrived, such statements made on a descriptive level, aiming solely at descriptive efficiency, may turn out to be not only irrelevant from a historical point of view, but may even do violence to the historical facts.

There may, however, occasionally be instances where historical fact can best be sacrificed to descriptive efficiency. For example, it is quite likely that historically *mawśi* 'mother's sister' underlies the form *mawsa* 'mother's sister's husband' or, as the dictionary simply has it, "the husband of मावशी." (I am willing to stand corrected on this point). We find, however, that it is descriptively more efficient in Marathi to derive feminine nouns (and adjectives) from masculines, in which case the historical relationship *mawśi* > *mawsa* will be overlooked in the interests of descriptive efficiency. (See, for example, Leonard Bloomfield, *Language*, 217, on deriving certain French masculine adjectives from feminines).

B

While we seem to have the same two morphemes involved in *koṇats-* and *koṇts-*, it would be of no advantage descriptively to attempt to show this. It would, for one, require a special statement to account for *koṇts-*, an apparent exception to the otherwise regular derivational pattern of forms in *-ts-*, the possessive adjective derivative morpheme. Furthermore, the two forms are functionally quite distinct. Though with equal probability we may get either *ramatsə pustək* 'Ram's book' or *te moṭhə hirwə pustək* 'the large green book' in response to the question *koṇtsə pustək?* 'which book?' to the question *koṇatsə pustək?* 'whose book?' we will elicit only *ramatsə pustək* or *hya mhatarya maṇsatsə pustək* this old man's book, or some other

true possessive adjective form (which *koṇts-* is not) in *-ts-*.

Though we may safely say that the underlying form of *koṇts-* and of *koṇats-* is the same, the two forms function differently and we can attribute this difference in function of the two morpheme complexes only to *-ts-*. We must then consider the *-ts-* of *koṇts-* as a morpheme distinct from the *-ts-* of *koṇats-*, and we will adhere to this descriptive distinction even though we may later be able to show historically that they too, like the underlying form, are 'the same.' Historical evidence, in fact, would here be somewhat irrelevant, for even if these two forms of *-ts-* can be shown to have been one in a previous historical stage of Marathi—in function as well as in form—our descriptive evidence tells us that functionally, in modern Marathi, they are quite distinct and we are therefore completely justified in treating them as two different morphemes.

C

The principal criterion for establishing a sub-class of possessive adjectives is morphological. As adjectives, functionally, these pattern just like all other adjectives. We may, for example, change *paṇḍhra ghoṛa* 'white horse' to *ramatsa ghoṛa* 'Ram's horse' without altering the formal structure of the utterance: we still have *AN*. (And note that we are not replacing *paṇḍhra* with *ramatsa;* we have in reality substituted *ramats-* for *paṇḍhr-*, for *-a* is not so much a function of these two underlying forms as it is of the phrase as a whole). However, while we may analyze both these adjectives as

showing an identical morpheme *-a* and as having an identical function, we cannot analyze *paṇḍhr-* any farther, but we can break down *ramats-* into two immediate constituents *rama-* (obl. form of *ram*)[6] and the secondary derivative suffix *-ts-*. Therefore, while functionally *ramatsa* and *paṇḍhra* are alike, morphemically they are not. It is on the basis of this different morphemic composition that we treat these two forms as belonging to different sub-classes of a single form class.

D

The next logical step in this procedure would be to state that, by the same token, *mazha, bhaw* and all other absolute forms are likewise not free forms. For just as the occurrence of *maźha, dhakṭya* and *bhawa-* is dependent upon the occurrence of an oblique morpheme (in this case *-la*), so the forms *maźha, ḍhakṭa* and *bhaw* depend upon the non-occurrence of any such morpheme or, better still, upon the occurrence of a morpheme X = 'absolute', characterized by zero. Such a procedure is, in a sense, actually called for by a rigorous methodology, for if we say that 'obliqueness,' which is characterized by the occurrence of certain morphemes, is a function of another given set of morphemes (*-la, -t, dzəwəḷ* etc.), we must then say that 'absoluteness,' which is similarly characterized by the occurrence of a

6. And *rama-* itself can be further analyzed into two immediate constituents: *ram*, plus the primary (obl.) derivative morpheme *-a*.

specific set of morphemes, is a function of an absolute (zero) morpheme X. Then *mazha, dhakṭa,* etc., are as much bound forms as *maźha, dhakṭya,* and so on, for their formal features (*-a,* and not *-ya*) are dependent upon the occurrence of X.

There is, in fact, nothing wrong with such a descriptive procedure; it is perfectly acceptable and is really more valid from the standpoint of methodological rigour. Any objections we may have probably arise from the fact that it is somewhat of a departure from the ordinary or orthodox methodology; it is not quite in keeping with our traditional usages and feelings with respect to 'words' and 'free forms,' which are mirrored in our orthography to some extent and which up to now have been held more or less valid by the procedures and results of linguistics. This does not, of course, make the procedure any the less valid. Such a procedure might, in fact, be valuable in getting us out of our old habits of thinking of and dealing with language in terms merely of isolated words, and in leading us to a generally more sober and realistic understanding of language as integrated and interrelated form and structure.

However that may be, this procedure does present us with two (at least) problems which must be decided. 1) Either we elaborate a new definition of 'word' and possibly of 'free form,' or 2) we acknowledge that (in Marathi, at least) the minimum free form is the phrase and not the word.

V

A SKETCH OF PASHTO SYNTAX

1·0 Syntax deals with the relations and distribution of words and phrases in the utterances of meaningful discourse. It deals, that is, with the functions of the morphemes and morpheme complexes which we obtain from our morphemic operations. While in morphology we find that we have to deal, to a greater or lesser extent, with functional criteria—for our morpheme classes are defined in terms not only of morphemic constituency, but in terms of their relative distribution as well—this is properly the realm of syntax. In this section then, we will be concerned with the distribution of the major form classes of Pashto; with their characteristic position in the phrases and sentences of the language and with certain features of interdependence.

1·1 The basic descriptive syntactic unit is the phrase. Phrases are of two types: noun phrases (*NP*) and verb phrases (*VP*). The larger syntactic unit is the sentence (*St*). One or more phrases make up a sentence.

1·11 *The Noun Phrase.* The minimal *NP* contains two elements: a stem plus an inflectional morpheme. The maximal *NP* comprises (in terms of class membership and not of actual number of elements) not more

than four elements: a particle, an adjective stem, a noun stem and an inflectional morpheme. The domain of the inflectional morphemes is the entire *NP* exclusive of particles. The alternants of the inflectional morphemes are suffixed to all members of the substantive class (nouns and adjectives). Since the occurrence of the inflectional morphemes is therefore implicit, they will not otherwise be cited formulaically as a general rule.

1·111 The functional sub-classes of the substantive class are defined in terms of their relative distribution within the *NP*. Their characteristic position is *A* (djective) *N*. *AN* by itself constitutes a *NP*, but *A* may not.[1] *NA* does not occur. It is on the basis of this rather rigid relative distribution that we define membership in the sub-classes *A* and *N*.

1. The basis for the sub-class distinction *A* : *N* is purely distributional. There will be two large groups of morpheme complexes which will always occur in stated positions relative to each other and to other morphemes in an utterance. These we consider the characteristic relative positions of *A* and *N* and those morphemes which regularly occur in these positions we include in the sub-classes *A* and *N*. There will, however, also be a considerable number of morpheme complexes—substantives—which may occur in both *A* and *N* position. Such morphemes share the features of immediate morphemic constituency of both *A* and *N*. Their total distribution, however, covers the combined ranges of the sub-classes *A* and *N;* that is, their function is both adjectival and nominal and we cannot include them in either of those sub-classes without some qualification as to their distinctive distributional features.

An exception to the type *AN* is the case of the verbal substantives occurring in equational sentences (see below). But here we are dealing with a special type of *A* and a restricted type of construction. No *A* of a different morphological structure, or not followed by such a morpheme, ever occurs in the position *N* . . . . Therefore we consider the *A* made on the verbal substantive a special sub-class of *A*, i.e., A_1, and the *NP* containing such an element a second type of *NP*, i.e., NP_1.

We have, for example, *da zaṛa ṣədza kor-ta dzi* 'the old woman is going home' where *zaṛa* is in characteristic *A* position. The discontinuous inflectional morpheme <*a*> (fem. sing. abs.) occurs over the entire *NP*, *da* 'the' showing the zero alternant. But *ma da zaṛa ṣədza wəlidəla* (or *da zaṛa ṣədza me wəlidəla*) 'I saw the old woman' where the verbal substantive stem *wəlidəl-* is also within the domain of <*a*>. We will find that wherever *wəlidəl-* or any other verbal substantive stem occurs, it will be within the domain of one of the substantive inflectional morphemes. We therefore consider *wəlidəl-* and others like it as a sub-class of adjective with a peculiar morphological structure and a unique distribution.

An alternative description, by the way, would enable us to dispense with the restricted A_1 and NP_1. We could say that *wəlidəla* is, in our sentence above, a *N* because it is occupying the characteristic position of *N* relative to the other members (*A*) of the substantive class.

ṣədza then would be an *A* like *zaṛa*. While this would be a perfectly admissible solution, it has not been followed here for several reasons. For one, forms in *-əl do* occur as *N*, or, more correctly, as *NP*. When they so occur, however, they show a zero alternant of the inflectional substantive morpheme, they are never preceded by a true *A* but always by a *NP* (which may show an altogether different inflectional morpheme), and when they occur within the domain of a pre- or postposition they show the unique oblique morpheme *-o*: *də pəste axəstəl* 'the pistachio harvest,' *axbar lwastəl* '(to) read a newspaper,' *də ḍoṛəy χwaṛəlo-ta dzəm* 'I am going to eat.' In their *NP* function *-əl* substantives may serve as the subject of a sentence (but only of equational sentences): *də pəste axəstəl asan dəy* 'Harvesting pistachios is easy.' As A_1 they may not. Aside from this one instance of their nominal function, *-əl* forms elsewhere show none of the characteristics of typical substantives. Their unique distribution in *AN*. . . . (with the same inflectional morpheme as the preceding elements) is shared by no other substantive and their morphemic constituents are totally distinct from those of all other substantive morpheme complexes: their underlying form is verbal (that is, these occur elsewhere with the set of morphemes which characterize finite verb forms) and their derivative suffix *-əl-* is unique, occurring only with these verbal stems.

1·112. The *NP* may contain more than one *A*, but only one *N*. A *Pr* may substitute for an entire *NP*, and for all but $(A)A_1$ of NP_1. *NP* may be preceded and/or

followed by one or more pre- and post-positions, but NP_1 may not. A *NP* in the environment of certain pre- and postpositions has the oblique inflectional morpheme, and is therefore said to be in oblique position.[2]

1·12. *The Verb Phrase.* The minimal *VP* consists of a single finite verb. The maximal *VP* may contain a finite verb plus one or more particles.

1·2. *The Sentence.* Sentences are of two main types, minor and full. Minor sentences may consist of a noun in obl. (vocative) form, or of an exclamation, or of an interrogative, an affirmative or a negative particle.

1·21. Full sentences are equational, nominal and narrative. Equational sentences are those containing one of the two copulars *yəm* and *kedəl;* they are of a

2. This statement holds true almost without exception for substantives in the plural, and, though perhaps a bit less so, for feminine substantives in the singular. Masc. sing. substantives show complete free variation between absolute and oblique forms in this environment, with the former being (at least, in the dialect on which this description is based) the more common, especially for stems in *-ay*. That the obl. form in such environments is the older, and today the more 'correct' form, is evident from written materials and from the speech of one informant whose Pashto was, in his own words, "good, literary Pashto." In the speech of the informant who supplied most of the material on which the present description is based, and in that of a third informant, the two forms were in free variation, with the abs. form somewhat more frequent.

type *NP* + *VP*, with the restriction that only one of the copulars may represent *VP*. Nominal sentences concontain no finite verb; these are constructions with the verbal adjectives: *NP* + NP_1, *NP* being the so-called agent. Narrative sentences are of the type *NP* + *VP*, where *VP* may include any finite verb except the copulars.

1·211. Equational and narrative sentences are bipartite—that is, they contain a subject and a predicate. Nominal and minor sentences have no predicate. Sentence types are illustrated formulaically in the accompanying chart.[3] It is understood below, that wherever *NP* occurs it may be replaced by *Pr*.

	Subject	Predicate
Minor	$p,\ {}_{(p)}NP$	
Nominal—(a)	$(NP)^n\ NP^x\ NP_1{}^x$	
(b)	$(NP)^n\ NP^x\ (NP)^n\ NP^y\ NP_1{}^y$	
Equational	$(NP)^n\ NP^x$	$(NP)^n\ (NP^x)\ {}_{(p)}VP^x$
Narrative—(a)	$(NP)^n\ NP^x$	$(NP)^n\ (NP^y)\ {}_{(p)}VP^x$
(b)		${}_{(p)}VP$

3. The abbreviations employed here are: p = particle; x = inflectional morpheme; y = inflectional morpheme other than x; (. . .) = the element in ( ) may or may not occur; n = any number of elements may occur.

1·2111. Minor sentences: (*e·*) *wrora* 'hey!' *tsəŋga*? 'how?' *wa wa 'oh! oh!'*

1·2112. Nominal sentences: (a) above are sentences in which NP_1 contains an A_1 made on an intransitive stem: *dɑ ṣədza wədareda* "the woman stopped'; (b) are sentences in which A_1 is made on a transitive stem. The NP^x of (b) above is the so-called agent, i.e., *dəy dɑ ṣədza wəlidəla* 'he saw that woman'—literally, 'by him, that woman (was) seen.' The verb clusters are of this type: *de ṣədze-sara me χabare kawəle* 'I was talking with that woman'. The verbs *wayəl* 'say' and *χandəl* 'laugh' and one or two others, though not clusters in that NP^y is absent nevertheless pattern like the clusters. (*wə*)*wayəl* and (*wə*)*χandəl* are constant throughout (they show a zero inflectional morphome alternant) and the *NP* immediately preceding will always show *p*: *mɑ tɑ-ta wəwayəl* 'I told you,' *duwi war-bɑnde χandəl* 'they were laughing at him (or them)', and so on. It is as if these stems were of the type $*AN + A_1$, with the $*AN$ implicit in A_1.

1·2113 Equational sentences are: *də hagə plar yaw ḍer zoṛ saṛay dəy* 'his father is a very old man', and *zmɑ mor nɑjoṛa śwa* 'my mother was becoming ill'.

1·2114 Narrative sentences (b) are imperatives. The subject is ordinarily not expressed, but may be in emphatic utterances: *dɑse wəka* 'do this!' or *tə dɑse wəka* 'YOU do this!'

1·2115 As to the *NP* in the table undifferentiated as to ^{x} or ^{y}, such *NP* (or $_{p}NP$) is functionally an adjective of the head *NP* or adverbial to the *VP* or to the entire St. That is, $_{(p)}NP = A$ or p.

1·2116 An utterance may consist of a single sentence or of any number of sentences connected by [,], by cə or by any of the conjunctions. End of utterance is marked by [.].

1·3 All verbal forms, whether finite or substantival, are based ultimately on a single stem. It is convenient, however, to distinguish two stems: the simple, basic stem and the augmented stem with the prefix *w*ə-. This latter, on the basis of its distribution, is functionally both modal and aspectual (see below). There is no formal morphemic distinction between transitive and intransitive stems as such, this dichotomy being relevant only in sentence structure (see 1·2112).

Stem I (Simple)	Stem II (Augmented)
f(inite)	
taṛəm, -*e*'(I, you) bind'	*wətaṛəm*, -*e* '(that I, you) bind'

	Stem I (Simple)	Stem II (Augmented)
	Substantival	
n(ominal)	*taṛəl* 'binding'	*wətaṛəl* 'binding' ('bound')
a(djectival)	*taṛələm, taṛə* '(I, he was) being bound'	*wətaṛələm, wətarə* '(I, he was) bound'
pa(st participle)	*taṛələy* 'bound'	*wətaṛələy* 'bound'
po(tential participle)	*taṛəlay* 'able to bind'	

1·31 Stems of both types show certain patterns of distribution relative to each other and to certain particles and phrases. On these patterns, illustrated below formulaically, are based the concepts of mode, tense and aspect. The formulae represent some of the principal sentence types common to Pashto. They are, in every case, minimal sentence types. (In addition to the abbreviations employed above (*f*, *n*, etc.) the following symbols will be used: $k = ka$ 'if' conditional particle; $b = ba$ a modal and temporal particle; $c = cə$ relative and connective; $t =$ any expression of time, except *b*, whether a particle or a phrase. Actual sentences on which the following formulae are based will be found in the Appendix.)

(1)	*If*	(c *IIf*)
(2)	b *If*	(c *IIf*)
(3)	*k If*	b *IIf*
(4)	b *IIf*	(c *IIf*)
(5)	*t IIf*	*If*
(6)	(*t*) (*k*) *IIf*	b *IIf*
(7)	(*t*) *Ia*	((*t*) b *Ia*)
(8)	*Ia*	*t Ia*
(9)	(*t*) *IIa*	(*Ia*)
(10)	*t II*(*a*) (*n*)	*Ipa*
(11)	*t II*(*a*) (*n*)	b *IIf*
(12)	*Ipa*	(c *IIf*)
(13)	*Ipo*	(c *IIf*)
(14)	*k I*(*a*) (*n*)	b *I*(*po*) (*a*) (*n*)
(15)	*k Ipo*	b *I*(*pa*) (*po*)
(16)	(*I*(*a*) (*pa*))	(*II*(*a*) (*pa*)) + *kedəl*

1·311 On the basis of the above formulae certain general statements about meaning can be made. All *f* forms are present or future. The *a* forms are the basis for expressions of past time, except in the environment of *k*, where they indicate a condition contrary to fact, present (cf. No. 14). No. 15 expresses a condition contrary to fact, past time. No. 16 represents the passive expression (see 1·32).

Note that stem *IIf* does not occur except in the environment of *c*, *k*, *b*, or *t*, but *Ia* and *IIa* may occur

alone. The function of stem *II* is best defined in terms of its concurrence with the particles:

c IIf is always a dependent phrase, and functionally 'subjunctive'.

b IIf indicates indefinite or contingent future, depending on its position and environment in the sentence. In (3) and (6) it is contingent, in (4) it is indefinite.

Any stem in the environment of *k* is conditional. In this environment the functional difference between stems *If* and *IIf* is temporal and aspectual: *If* is present durative; *IIf* is future, perfective.

The functional difference between stems *I* (*a*) (*n*) *II* (*a*) (*n*) is aspectual: *I* is durative, *II* is perfective. The distinction between *a* and *n* is seen only in transitive verbs: where the subject (in formal terms) is expressed, the stem shows *a*, where it is not expressed the stem shows *n*. For example, *ma tase wəwahələ́y* 'I beat you' (lit. 'by me you (were) beaten'), but *ma tasc-ta wəwayəl cə*...'I said to you, that...'

1·32 Passives are made with the verbal adjective forms of transitive verbs plus the copular *kedəl*. Verbs thus employed show both stem *I* and *II*, the distinctions being aspectual. Less frequently, passives are made with the past participle, in complete free variation with the verbal adjective. The agent or actor is not expressed in passive constructions. Intransitives do not have passive formations.

APPENDIX

1. *zə kor-ta dzəm* (*cə wəχrəm*) 'I am going home (to eat).'

2. *muẓ də haɡə dukan-ta ḍer ba tlu* (*cə χabare wəkṛu*) 'we used to go to his shop often (to chat with him).'

3. *ka tə os dze, zə ta-sara ba wlaṛśəm* (or ...*zə ba ta-sara wlaṛśəm*) 'If you are going now, I will go with you.'

4. *dəy ye staso wror-ta ba waχli* (*cə haɡa ye wəlwali*) 'He will take it to your brother (for him to read).'

5. *har kəla cə haɡa mata wəwini, zə kar kawəm* 'Every time he sees me, I am working.'

6. *ka dəy pə śpe-ke ta-sara wlaṛśi, zə ba haɡə-ta wəwayəl* 'If he comes with you in the evening, I will tell him.'

7. (*haɡa waχt*) *cə muẓ də haɡə pə nəźde-ke źwand kawə, muẓ halta ḍer ba tlu* 'When we lived (were living) near there, we used to go there frequently.'

8. *muẓ kar kawə cə duwi bidedəl* 'We were working while they were sleeping.'

9. (*cə*) *duwi muẓ wəlidəlu* (*muẓ lə kor-tsəχa watəlu*) '(When) they saw us (we were leaving the house).'

10. *cə ma hag ə-ta wəlidə, hets śay kəṛəy ye na wə* 'When I saw him he had done nothing.'

11. *pas də duwi də χarsawəlo-tsəχa, haga də noro kitabuno waχəstəlo-ta ba wlaṛśi* 'After selling them he is going to buy some other books.'

12. *duwita śə wayələy śəwəy wəcə wəkṛi?* 'What had they been told to do?'

13. *zə ye lidəlay na śəm* 'I cannot see him.'

14. *ka zə pohedəm, ta-ta ba me wayəl* 'If I knew I would tell you.'

15. *ka zə da pohedəlay* (or *pohedələy way*), *zə waχti ba watələy wəm* 'If I had known that I would have left earlier.'

16. *da g a kitab ma-ta darkəṛəy śəwəy wə* 'This book was given to me.

VI

TRANSFER GRAMMAR

0. Transfer Grammar is a set of techniques for the teaching of language. It is essentially a structural comparison of two languages, presenting the structural relevancies of one—the language to be learned—in terms of another—the language of the learner. Its aim is to have the learner control, with as great a degree of accuracy as possible, the phonologic, morphologic and syntactic structure of a second language. To this end Transfer Grammar considers first the linguistic equipment of the learner, i.e: his native language as a more or less limited system of sound and formal (morphological and syntactic) patterns, and seeks to supplement this equipment with the necessary additional facts of sound and formal patterns which will give the learner control over the structural characteristics of the new language.

Transfer Grammar necessarily deals not only with what must be learned but also with what must be, as it were, unlearned or curbed. For in transferring from one language to another, many automatic pattern habits which are a part of the learner's linguistic stock, acquired through the use of and limited by the system which is his native language, and which are inconsistent with the system of the second language will tend to be carried over. Therefore Transfer Grammar seeks not only to

supplement, but must seek also to curb and modify by pointing out the incompatibility with the structural whole of the new system of certain processes and structural characteristics of the learner's system. Transfer Grammar aims at presenting the learner with a picture of a language which makes use of a (more or less limited) number of features common to his own system, supplements these with new features to form its characteristic structure, and eliminates or ignores other features of the learner's system. And it is not sufficient merely to provide the learner with additional linguistic tools—to enrich his linguistic stock. Within the total range of the extended linguistic stock, comprising the two more or less overlapping systems, it must be the aim of Transfer Grammar to have the learner restrict himself to the relevant features of a single system at a time rather than to range through the entire stock at random.

1. Automatic habits are most likely to be carried over into a second language in the realms of phonology and syntax. In the case of syntax (for phonology see Sec. 6) this is due in large measure to the fact that present day language learning deals, for the most part, with words as words and does not seriously deal with words as morpheme complexes that are interrelated and interdependent parts of a structural whole. Present day language learning is essentially a process of translation: we translate words and we put words into contexts which are in turn translated. We do not, however, as a general rule, translate the contexts in terms of their significance to the forms which they contain nor to the mean-

ing which we give to them. And herein lies a major failing, for it is the context—the formal structural environment—which ultimately determines the form of a word, its relation to other words (and even to parts of words) within a syntactic construct and its meaning and translation. So *coma,* for example, is not, in Spanish, 'eat!' nor '(that I) eat' nor any other single form by which it is commonly translated. It is, in a sense, all of these.

1·1 That we can translate Spanish *coma* into English in several different ways (and that, in fact, in Spanish it may be termed 'subjunctive' or 'imperative') is a factor conditioned by the environment in which the form occurs. *coma* is a relevant morphemic complex but, as a matter of fact, it is no more relevant than the environments in which it occurs. The sequence *com-* (or any other stem) plus *-a* cannot be properly divorced from the environments in which it occurs. The structure of the language is such that *coma* occurs only in a limited range of environments, while the reverse is also true, that specific word or morpheme sequences will show only a limited number of forms in a given position. This is precisely where present day language teaching is deficient: it fails to consider the relevance of the total structure (whether minimal or maximal), the environment of elements, to the elements of which it is composed, and to the relations of the elements to each other.

It cannot be too strongly emphasized that 'words,' i.e., arbitrary sequences of phonemes, have no real

existence in themselves, but only as they combine with other 'words' (and with such prosodic features as intonation patterns) as individual significant signalling units of meaningful discourse. A word does, of course, mean something, but this something remains very general until we know precisely how that word is used, until we know, that is, the exact context or environment of the word. Words, simply as words, have only a general range of meaning which attaches to them from all the contexts in which they occur in the sum total of their occurrences. They have specific meaning only in specific environments. The phonemic sequence /'stowniy/, for instance, is one thing in 'stoney ground' and another in 'a stoney stare'; so the /'stownz/ in 'he stones' and in 'three stones' are not at all the same thing, while to be 'stone sober' is a virtue, but to be 'fourteen stone' probably means that it is time to diet. This is a rather simple example, of course. The range of meanings of the sequence /'stown/ can doubtless be traced back to a single source (though descriptively this is irrelevant)—to the original 'stone' or 'rock.' Still the phonemic complex /'stown/ has more than one meaning (representing at least two distinct morphemes) and these we can only determine by observing the different environments in which we find that sequence. Meaning is, in short, the product or function of differing environments.

Take, for example, the sequence which we write in English 'bear.' This occurs over a very extended range of environments, unmatched by that of all but a very few words. We will find, however, that what we at first

took to be an unusual latitude of environments for 'bear,' actually consists of two distinct ranges of environments. In some environments in which 'bear' occurs, we may also have such words as 'act,' 'look,' 'run,' 'walk,' and a host of other words—in 'he .... s,' in ' .... -ing,' in 'to....' etc. In other environments in which we get 'bear,' such as in ' .... s hibernate in the winter,' we may also get 'woodchuck,' 'panda,' 'ground hog' and others. We find furthermore, that for all these words (but not for 'bear') these sets of environments are mutually exclusive. That is, where we get 'act' we may not get 'woodchuck' and vice versa. These sets of environments are mutually exclusive, which leads us to conclude that we have in English two distinct morphemes which we write 'bear.'

Since we can show formally that there is a close relationship between the /'stown/ of 'stone quarry' and of 'to stone,' we may wish to find out whether there is not a similar relationship between the 'bear' of 'bear cub' and of 'to bear.' 'to stone' is 'to throw stones (or rocks)' and we wish to find out if 'to bear' is, possibly, 'to throw bears.' The relationship between the two 'stone' sequences is easily established on a purely formal basis: their mutual substitutability in certain morpheme sequences. For 'he stoned' we may substitute 'he threw stones' and have it accepted as 'meaning the same thing' by any speaker of English. Then we either ask a speaker of English to accept 'he throws bears' for 'he bears.' (Or we may simply wait for such a sequence to occur.) If our native speaker of English accepts this substitution,

we may conclude that the same relationship that obtains between the two 'stone' sequences, obtains between our two forms 'bear.' (cf. 'to water' and 'to give water,' 'to butter' and 'to spread butter,' etc.) If, however, our native speaker does not accept the substitution (and he will not), then we conclude that the 'bear' of 'bears hibernate in the winter' and of 'he bears his troubles like a Spartan' are two completely distinct morphemes.

1.11 Many of the sins of language teaching can be attributed to an earnest desire to simplify the process. It results, however, merely in an over simplification that leaves the learner with a respectable vocabulary but with no idea as to how to employ it. It is not enough to speak of 'conditional,' 'subjunctive' and so on; the basis on which such concepts rest must also be made clear. The basis, which the linguist knows but as a teacher of language too often fails to bring out, is structural. Adding *-a* to *com-* does not in itself constitute 'subjunctive.' Rather it is this plus a certain range of environments in which the resulting morpheme complex occurs that allow us to speak of a 'subjunctive' in Spanish. The terminology itself, as employed by linguists, is a factor of structural criteria; we cannot say without qualification, for instance, that 'needed' is 'the past tense of need.' It is such in a number of environments, but in 'If I .... money I would ask my father for it' it is something else again. And the important thing to keep in mind with regard to Transfer Grammar is that the moment we effect a structural change in one language we find that, generally, greater or lesser changes

are observed in the second language. Using, for example, English and Spanish, we have the following:

If I needed money I would ask my father for it.	*Si necesitara dinero se lo pediría a mi padre.*

If we substitute 'when' for 'if' in the English sentence, the Spanish translation will also show certain changes:

When I needed money I would ask my father for it.	*Cuando necesitaba dinero se lo pedía a mi padre.*

For Transfer purposes we show the interdependence of the elements (in the Spanish) *si . . . . -ara . . . . iría*[1] by substituting *cuando* for *si* which then calls for *-aba* and *-ía* in second and third positions. We can then equate English 'if. . . .-ed. . . .would ask' with Spanish *si. . . . -ara. . . .iría,* and English 'when. . . .-ed. . . .would ask' with Spanish *cuando . . . . .-aba . . . . -ía.*

1·2 There are one or two important points to be considered here. Transfer Grammar in its aims and methods is not a formal grammar in any sense. It is, to be sure, based necessarily on formal criteria, but our operations, insofar as the learner is concerned, rely on other than purely formal techniques. Thus in equating the Spanish forms above with the corresponding English forms, our frame of reference must be primarily the meaning of the English forms. This is so because the speaker of English, unless he is somewhat of a linguist, is not fully aware of

1. We will assume, for purposes of illustration, that *-ara, -iría,* etc. are in fact the verbal endings.

the formal characteristics of his speech patterns in precisely those terms. He handles his language more or less intuitively (and, of course, quite adequately) from the habits acquired in a non-conscious way, through its continual use from childhood, and pretty much in spite of subsequent training in grammar. To him, however, the two English sentences above are different because as he employs them and understands them they mean different things, though as morpheme sequences they are identical except for their first members. And though it can be demonstrated formally that 'I would ask' of the first sentence is functionally not the same 'I would ask' of the second sentence, it is not necessary, and in some instances it may not be desirable, to state it in those terms. It is sufficient for the purposes of Transfer Grammar that the learner 'know' that the two are different.

1·3 In the case of the two English sentences above it might, however, be of advantage to illustrate the formal differences between them—other than 'when' vs 'if'—if only for the sake of pointing up the formal differences of the Spanish equivalences.[2]

To show that the formal changes in the Spanish above are matched by comparable (to a degree) changes in the English, we might render the second English sentence as 'When I needed money I used to ask (or

2. In some instances, on the other hand, we may wish to show that the two English structures are 'the same,' not only in terms of their translation into the second language, but also in terms of their mutual substitutability within English itself, as alternants of a single archtype.

'asked') my father for it.' Then later we would go on to show that in the environment X 'I would ask', 'I used to ask' and 'I asked' are mutually substitutable, whereas in another environment, Y, they are not.

1·31 We are not, of course, trying to tell the learner that these three forms are 'the same.' They are, in fact, far from identical formally, and the learner would not accept such a dictum for he 'knows' that they are not 'the same,' Nevertheless, we may find it desirable in some instances to indicate that they serve a similar function within a given limited range of environments, a fact which we can demonstrate formally. When we do so, however, we do best to operate within the framework of the meaning of forms rather than in terms of formal structural features, for the individual manipulates his linguistic tools as meaningful items and not as features of structural form. Whether we do so or not, and to what extent, will depend entirely upon the structural characteristics of the languages concerned, considered within the aims and requirements of Transfer Grammar.[3]

3. The merits of such procedures cannot at this point be assessed, but must await further and wider trials of the methods set forth here. The writer has applied many of the techniques discussed here with varying degrees of success, in conducting classes in Hindustani and especially in teaching English to foreign students at the University of Pennsylvania. In fact, a good many points discussed here are direct outgrowths of this experience. However, the relatively short space of time (about 2 years) over which this work has extended and peculiar limitations of the languages dealt with do not warrant, it is felt, many far-reaching or positive conclusions on some matters of detail and procedure.

2. Transfer Grammar deals with words as morpheme complexes and with the relations of these complexes to one another within the structural whole in which they occur. Furthermore, it equates the structures and the relations within and between structures of two languages, in order to present the significant structural features of one in terms of the other. The principal aim is to indicate where and how the languages are structurally similar and where dissimilar and, in the latter case, to supply the learner with the necessary additional linguistic material, in terms of structural processes and stated in what we may call 'transference operations,' to enable him to transfer from his own to a second language and to be able to control its structural characteristics.

2·1 In stating our transferance operations we will find it to our advantage occasionally to restate or to simplify certain features of one language in terms of the other. We may illustrate this using English and Pashto. English[4] $Ta\eta_1N_2$ 'the running boy,' $TN_2A\eta_1$ 'the boy running' and $TN_2RVA\eta_1$ 'the boy who is running,' are all equated with Pashto DN_2RV_1 *da halək cə zg ali.* (The Pashto formulae will be in italics hereafter). For

4. In these and subsequent formulae the following notation is used: T = article; *t* = an expression of time; Aη = verbal substantive in -ing; N = noun; V = verb; R = relative; p = pre- or postposition; D = demonstrative; NP and VP = noun and verb phrase, respectively N_v = verbal noun; Pr. = pronoun; f = 'will'; *b* is a Pashto modal and temporal (future) particle.

the sake of economy we wish to keep our transference oprations to a minimum; we attempt, in equating the structural relevancies of the two languages, to come as close as possible to the ideal of a one-to-one correspondence of structural types. Therefore we look for something that will permit us to reduce the number of one-sided equivalence.

In the case above it can be shown that our three English complexes can be considered as alternants of a single archtype, for they are, within a limited range of environments, mutually substitutable. In given sequences of morphemes where $TA\eta_1N_2$ occurs, we may substitute $TN_2A\eta_1$ or $TN_2RVA\eta_1$ for it without seriously affecting the import of the total structure and, matters of style apart, the three utterances will be accepted by any native speaker of English as having 'the same meaning.' So in ' . . . is my son' we may have $TA\eta_1N_2$ 'the running boy;' $TN_2A\eta_1$ 'the boy running' or $TN_2RVA\eta_1$ 'the boy who is running.' These three structures, in the environment ' . . . is my son' are mutually substitutable. Furthermore, in addition to the fact of their identical environment and similar functions (in formal terms), to the learner they 'mean the same thing.'

2·11 In this instance we have, as it were, simplified English in the direction of Pashto. For our purposes the three structures, though differing in their morphemic composition and arrangement, are alternants of a single archtype, say Q, which has a single Pashto equivalent DN_2RV_1, Our transference statement is then $Q = DN_2RV_1$, with Q having been defined as an archtype

having the alternants $TA\eta_1N_2$, $TN_2A_{\eta 1}$ and $TN_2RVA_{\eta 1}$, within a limited range of environments. This last qualification is important, for identical morpheme sequences, in terms of substitutability, do not necessarily represent the same structural archtype. In the sentence 'I saw the boy running' we may replace 'the boy running' with 'the boy as he was running.' That is, we replace $TN\eta_2A_{\eta 1}$ with $TN_2tPr_2VA\eta_1$. But in the invironment ' . . is my son . .'. $TN_2tPr_2VA\eta_1$ is not substitutable for $TN_2A_{\eta 1}$. Mutual substitutability is a structurally conditioned factor. For this reason our transference operations are based on whole structures and on the features of concurrence and mutual substitutability of sub-structures within the whole.

3. The transference operations involve formal features of structural relation and interdependence in one language which are new to the speaker of another given language but which can 'equated' with structural features of that language. The main objective of Transfer Grammar is to show the interrelations of elements within the formal structural system of the language to be learned and to have the learner understand and thus be able to control such interrleations within that system. This is pretty much the old idea of trying to get a person to 'think' in another language. What the transferences attempt to provide is a point of reference, in terms of the formal structural relations of the learner's language, for the features of inter- and intrastructural relations of the language being learned. We wish to have the learner not memorize specific translations but rather to master

the operations necessary for him to arrive at given structure types in the second language using his own language as a point of departure. We illustrate again using Pashto and English.

3·1 Let us take the sentences *zə ṣar-ta dzəm* 'I am going to the city' and *zə ṣarta dzəm cə wəχrəm* 'I am going to the city to eat.' The first sentence merely entails pointing out the different word order of Pashto with respect to English and falls outside the scope of our transference operations. In the second instance we have, in each language, added an element to our original sentence bringing about a new structural relation and we wish to explain this new relation in Pashto with respect to English. It must be stressed that we wish to have the learner understand the relations of the elements in the second sentence in terms of Pashto itself and not of a specific English translation. However, we refer back to English and equate the new structural relation there with that in Pashto. Thus NP VP pNP = *NP NPp VP-I*: NP VP pNP pNv = *NP NPp VP-I c VP-II*.[5]

3·11 The first equation is important not in itself but only in that it serves as a point of departure for the operation which gives us the second equation. This latter we may reduce to VP pNv = *VP-I c VP-II* which represents one of the basic structural relational facts of the two languages.

5. I and II indicate different verbal stems; the distinction is one of mode. *c* represents a connective and relative particle.

3·2 The two equations above will serve as the basis for another the moment we alter the environment. Assuming that they occurred in [.] .. [.], if we replace the first [.] with *t* we have *t* NP VP pNP pN_v "Tomorrow I am going to the city to eat' or *t* NP fVP pNP pN_v 'Tomorrow I will go to the city to eat.'[6] We will find that these have, in some environments, a single Pashto equivalent *t NP NPp b VP-I c VP-II parun zə ṣar-ta dzəm cə wəχrəm,* but that in other invironments there will be a different Pashto equivalent for each English structure: *t* NP VP pNP pN_v ('Tomorrow I am going to the city to eat') = *t NP NPp b VP-I c VP-II* (*parun zə ṣar-ta dzəm cə wəχrəm*) and t NP. fVP pNP pN_v ('Tomorrow I will go to the city to eat') = *t NP NPp b VP-II c VP-II* (*parun zə ṣar-ta ba wlaṛśəm cə wəχrəm*).

3·21 In this case we test the English forms to see if they are everywhere mutually substitutable and we will find that they are not. Some *t* environments in which 'I am going' occurs will exclude 'I will go' and

6. The *t* need not occur in the immediate environment of a phrase, but may be removed from it by any number of phrases or sentences. A *t*,as a matter of fact, need occur only once in an entire discourse and until a different *t* occurs it places certain restrictions on the morpheme sequences of that discourse. For this reason, among others, it is often of advantage to present the materials of the second language in the form of integrated structure types within a whole context, such as conversation and narrative.

vice versa,[7] so that we have, in effect, t and t^1 environments. We will then find that we can equate 'I am going' in its exclusive t environments (which we may label simply t) with b VP-I c VP-II and 'I will go in its exclusive t environments (t^1) with b VP-II c VP-II.

3·22 'I am going' (in its future usage) and 'I will go' then are not always necessarily 'the same,' not only in terms of translation into Pashto, but within the formal structural system of English grammar as well. Whenever they are alternants of a single archtype there are qualifications as to environment. The important consideration, from the point of view of Transfer Grammar, is to present equivalences of this type in such a way that they will be as unambiguous as possible. Especially in the English translations care must be taken that 'I am going' and 'I will go,' for instance, are to the extent possible presented to the learner in mutually exclusive environments in order that the transferance operations may result in more exact equations.

3·3 Finally, taking again our English sentence 'I am going to the city to eat,' we find that it has another Pashto equivalent *zə ṣar-ta də ḍoṛəy χwaṛəlo-ta dzəm.* This would give us an equation:

$$\text{NP VP pNP pN}_{\text{v}} = \begin{matrix} \textit{NP NPp VP-I c VP-II} \\ \textit{NP NPp pNP N}_{v}\textit{p VP-I} \end{matrix}$$

7. 'Exclude' in the sense that they will be rejected by a native speaker of English as 'not meaning the same thing'—questions of style apart.

In this case we test our Pashto structures for mutual substitutability. If we find that they are everywhere mutually substitutable (and it happens they are) we then say that they are alternants of an archtype (or structural substitution class) Z[8] and we have an equation NP VP pNP $pN_v = Z$. Here we have 'simplified' Pashto in the direction of English.

4. Just as we cannot to any advantage deal with words in isolation—whether in terms of translation or within a single language without reference to another—neither can we deal with sub-structures in isolation. The facts of a language, especially for the purposes of Transfer Grammar, require, as in the cases cited above, that we perform our transference operations in terms of whole, integrated structure features; and as a matter of fact, our archtypes are merely alternating sets of sub-structures in limited positional relations to other sub-structures. We do not in Linguistics content ourselves, for example, with stating or merely listing morpheme and word classes of a language. We state in addition the facts of composition and arrangement that make of the morpheme and word classes meaningful functional constructs. Again, we do not stop at a description of the component parts of noun and verb phrases and of their arrangement. If our picture of the language is to

8. Z may or may not be subject to restrictions of environment. That is, Z may represent a class of alternant structure types only within a specified range of environment, or within all the environments in which the members of Z occur.

be complete, we go beyond this and describe the patterns in which the resultant structural complexes (the noun and verb phrases) are combined with each other to form meaningful utterances.

These facts of arrangement which the linguist must have in order to understand the structure and the functioning of a language must not be considered his exclusive province if language teaching is to be successful. They are as necessary to the learner, if he is to control the language adequately, as they are to the linguist. Furthermore, the non-linguist is as capable of understanding the structural characteristics of a language as is the linguist. It is only that their respective approaches to the same data are different.

Much of language teaching fails because it withholds the facts of structural arrangement and interrelation, without which the picture of the language is incomplete, from the learner. The learner is never made fully aware of the relation that total structure bears to the words and sub-structures which he has so painfully learned, and this places him much in the position of a linguist who is supplied with a list of morphemes but with no statements as to their function and arrangement. This is not to say, of course, that the teacher of language should attempt to make linguists out of all who wish to learn a language by supplying them with a description of the language and sending them on their way. Rather the contrary is the case. The relevant facts of the language should be presented to the learner

with a few formal statements as possible and the statements made only relative and set within the framework of the learner's linguistic equipment and experience.

4·1 Transfer Grammar seeks to avoid the situation of the linguist with the list of morphemes and no structural statements by dealing with language only in terms of integrated structures. The transferance operations are stated with respect to the environments in which the relevant structures (of both languages) occur. And though the methodology necessarily has a formal basis, we bear in mind that to the average individual formal criteria have little or no meaning, as formal criteria, for they are outside the scope of his linguistic experience. With the materials of his own language the individual deals primarily in terms of what they mean to him, at the same time operating within the formal structural limits imposed upon him by the characteristic features of that language system. It is on these terms that Transfer Grammar seeks to present to the learner the relevant facts of the language he wishes to learn.

5. So far we have considered the requirements and techniques of Transfer Grammar principally on the level of syntax. We now consider morphology and phonology.

5·1 With regard to morphology the most important points of transfer will have to do with any new word classes or morphological processes; for instance, the numerical classifiers of Thai and the the tones of Chinese. It may well be possible to equate such new phenomena (new, that is, to the learner's linguistic experience) with

certain features of the learner's language. If so and to what extent will depend solely on the languages concerned.

In some instances, as with Pashto and English, morphological processes will not differ substantially as processes, but will vary greatly in the extent to which they are active and productive in one language as against the other. In such cases alternatives present themselves. To the extent possible we can equate the common features, and then point out their wider (or their more restricted) range in one language as compared with the other. We may, on the other hand, especially where a given process is a restricted, non-productive remnant in one language, choose not to equate the two languages on this point, treating the process in question simply as a new feature of the second language. This might prove to advantage in the case of certain oblique inflectional categories of such languages as Pashto with respect to English.

At any rate Transfer Grammar does not separate morphology from syntax. Morphology is implicit in the transferance operations.

6. Phonology presents a somewhat different problem, though here again the prime consideration is the needs of the learner. We have here almost a problem of aesthetics: what degree of accuracy can we require of the learner in the production of the new sounds of the second language? The writer takes the stand that perfection—or near perfection—is possible; that is, that no sound or sound pattern is impossible to master and that

there is no reason, therefore, to expect anything less than complete accuracy in mastering the phonology of the new language. With the important reservation, of course, that considerations of time and the availability of native speakers as models will have much to do with the degree of perfection that can be aimed at and attained.

6·1 Phonology involves a twofold operation: the acquisition of new sounds and sound combinations and the modification or curbing of certain automatic articulatory features of the first language which conflict with the phonologic system of the second. In this last respect we will have to contend especially with new environments and new combinations of known sounds, the articulation of similar sounds, and the contour patterns of the two languages.

It is essential to devote some exclusive attention to the phonological transition from one language to the other, and this purpose can best be served by working, in the preliminary stages of learning, with material of the new language for which no translation is given. There are two very good reasons for this. It has been found that unless phonology is given a good deal of exclusive attention the sounds of the new language will be only imperfectly acquired. If the learner is concerned with problems of structure and meaning as well as with problems of phonology, the latter seem invariably to be subordinated to the former and careless habits of articulation are acquired which are almost impossible to eradicate later on. Second, when the learner is aware of the meaning of utterances there is a very strong ten-

dency to fit the new language into the contour patterns of his own speech. The learner should be made to master with as great a degree of perfection as possible all the phonological features of the new language before proceeding to the structural. This end can best be served, it is felt, by dealing with phonology exclusively while the learner is unaware of meaning.

7. Finally there will be certain features of the structure of one language which cannot be equated with structural features of the other. There is hardly a basis, for example, on which to perform transferance operations in the case of Pashto word order with respect to English, and especially the order of elements within the Pashto predicate as compared with English. Such features as these that are beyond the linguistic experience of the learner must be presented to him in a straightforward manner, as simply new data to add to his linguistic equipment.

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